

LIBRARY

SUPREME COURT, U. S.

IN THE

Supreme Court of the United States

OCTOBER TERM [REDACTED] 1961

No. 8 Original

STATE OF ARIZONA,

Complainant

STATE OF CALIFORNIA, PALO VERDE IRRIGATION DISTRICT, IMPERIAL IRRIGATION DISTRICT, COACHELLA VALLEY COUNTY WATER DISTRICT, THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, CITY OF LOS ANGELES, CITY OF SAN DIEGO, AND COUNTY OF SAN DIEGO,

Defendants

UNITED STATES OF AMERICA and STATE OF NEVADA,

Intervenor

STATE OF NEW MEXICO and STATE OF UTAH,

Intervenor Defendants

Opening Brief of the California Defendants in Support of Their Exceptions to the Report of the Special Master

(List of attorneys on next page.)

May 22, 1961

For the State of California

STANLEY MOSK
Attorney General
State Building
Los Angeles 12, California

NORTHCUTT ELY
Special Assistant
Attorney General
Tower Building
Washington 5, D. C.

CHARLES E. CORKER
Assistant Attorney General
State Building
Los Angeles 12, California

BURTON J. GINDLER
Deputy Attorney General

GILBERT F. NELSON
Assistant Attorney General

JOHN R. ALEXANDER
Deputy Attorney General
909 South Broadway
Los Angeles 15, California

SHIRLEY M. HUFSTEDLER
610 Rowan Building
Los Angeles 13, California

HOWARD I. FRIEDMAN
523 West Sixth Street
Los Angeles 13, California

C. EMERSON DUNCAN II
JEROME C. MUYS
Tower Building
Washington 5, D. C.

For Palo Verde Irrigation District

FRANCIS E. JENNEY
STANLEY C. LAGERLOF
Special Counsel
500 South Virgil Avenue
Los Angeles 5, California

For Imperial Irrigation District

HARRY W. HORTON
Chief Counsel

R. L. KNOX, JR.
Counsel
Law Building
El Centro, California

For Coachella Valley County Water District

EARL REDWINE
Special Counsel
207 Lewis Building
Main Street at 10th
Riverside, California

*For The Metropolitan Water
District of Southern
California*

JAMES H. HOWARD
Special Counsel

CHARLES C. COOPER, JR.
General Counsel

H. KENNETH HUTCHINSON
Deputy General Counsel
306 West Third Street
Los Angeles 13, California

FRANK P. DOHERTY
Special Counsel
433 South Spring Street
Los Angeles 13, California

For the City of Los Angeles

ROGER ARNEBERGH
City Attorney
City Hall
Los Angeles 12, California

GILMORE TILLMAN
*Chief Assistant City Attorney
for Water and Power*
207 South Broadway
Los Angeles 12, California

For the City of San Diego

JEAN F. DUPAUL
City Attorney
Civic Center
San Diego, California

For the County of San Diego

HENRY A. DIETZ
San Diego County Counsel

ROBERT G. BERREY
Deputy County Counsel
Court House
San Diego, California

OPENING BRIEF OF THE CALIFORNIA DEFENDANTS IN
SUPPORT OF THEIR EXCEPTIONS TO THE
REPORT OF THE SPECIAL MASTER

MAY 22, 1961

TABLE OF CONTENTS

	PAGE
Report of the Special Master.....	1
Jurisdiction	2
Documents Involved.....	2
Questions Presented.....	4
Statement of the Case.....	7
I. Procedural Statement.....	7
II. The California Defendants.....	9
III. Existing Projects in Other Lower Basin States.....	16
A. Arizona Projects.....	16
B. Nevada Projects.....	18
C. Utah and New Mexico Projects.....	19
IV. Interstate Apportionment Proposed by the California Defendants of the Dependable Lower Basin Water Supply	20
A. The Evidence on Water Supply.....	20
B. Interstate Apportionment Proposed by California	21
C. The Master's Determinations on Water Supply....	23
D. California Motions re Water Supply.....	23

V. Decision Recommended in the Master's Report.....	25
A. The "Mainstream" and "Tributary" Waters.....	25
B. The "Mainstream" Allocation.....	25
1. Basis of Water Rights.....	25
2. The Limitation on California.....	25
3. The "Contractual Allocation Scheme".....	28
4. Federal Reservations.....	30
C. The "Tributary" Waters.....	31
1. "Tributary" Users <i>Inter Sese</i>	31
2. "Tributary" Users Vis-a-vis "Mainstream" Users	32
VI. Exceptions of the California Defendants.....	32
Summary of the Argument.....	33
Preliminary Statement.....	33
I. Introduction: The Basis of Water Rights.....	37
II. Construction of the Limitation on California's Rights..	39
III. Destruction of Priorities by a Contractual Allocation Scheme	45
IV. Nonexistence of the Master's Contractual Allocation Scheme	47
V. Water Supply and Justiciability.....	49
Conclusion	51

ARGUMENT

PART ONE

Introduction to the Argument: Equitable Apportionment and Priority of Appropriation as the Foundation of Water Rights	52
1. Principles of Western Water Law.....	54
2. Principles of Priority of Appropriation.....	54
3. Federal Recognition of Appropriation Principles.....	62
4. Equitable Apportionment Doctrine.....	64

PART TWO

The Interpretation of the Limitation on California, Proposed in the Boulder Canyon Project Act and Accepted in the California Limitation Act, Is Controlled by the Meaning of the Colorado River Compact Expressly Incorporated by Reference in Both Statutes..... 69

Statement of the Issue..... 69

Significance of the Issue..... 74

I. The Special Master's Conclusion That Section 4(a) Cannot Be Read Literally Is Wrong..... 80

A. There Is No Distinction Between Article III(a) as Used in the Compact and Article III(a) as Used in the Project Act..... 80

B. A Natural and Literal Reading of the Limitation's Reference to the Compact Does Not Produce the Irrational and Unfair Results Discovered by the Master..... 85

1. Utah and New Mexico Would Not Be Excluded From All Lower Basin Uses..... 85

2. Upper Basin Would Not Be Excluded From Surplus 91

3. California Would Not Be Excluded From Use of More Than 4.4 Million Acre-Feet Per Annum Until Basin Uses Total 16 Million Acre-Feet Per Annum..... 92

C. Congress Did Not Exclude the Gila River System Waters From the Tri-State Compact Proposed in Section 4(a)..... 93

II. The Language of the Project Act Requires the Limitation To Be Given Its Natural and Literal Meaning To Incorporate the Colorado River Compact.....100

A.	It Is Unreasonable To Reject the Project Act's Express and Specific Incorporation of the Colorado River Compact.....	100
B.	Article III(b) Waters Are Included in the "Excess or Surplus" Available to California if the Project Act Is "Read Literally".....	106
III.	The Legislative History of the Project Act Supports the Natural and Literal Meaning of the Limitation's Incorporation of the Colorado River Compact	110
A.	The Limitation's Incorporation of the Compact Is Purposeful and Rational.....	112
B.	Senator Phipps, Author of the Limitation and Chairman of the Reporting Committee, Made His Intention To Refer to the Compact Unmistakable	118
C.	Confused, Conflicting, and Ambiguous Statements on the Floor of the Senate Cannot Overturn the Natural and Literal Incorporation of the Compact in the Limitation.....	121
IV.	Truncation of the Colorado River at Lake Mead Is Not Logical Because Diversions of Water From Bridge Canyon (Above Lake Mead) Have Been Planned for Use in Both Arizona and California Before and After Enactment of the Project Act.....	124
V.	The Consensual Nature of the Limitation, Established by the Project Act and the Reciprocal California Limitation Act Upon Six-State Ratification of the Compact, Requires a Natural and Literal Reading of the Limitation To Incorporate the Colorado River Compact.....	128

PART THREE

The Master Erred in Holding That the Boulder Canyon Project Act Authorized the Secretary of the Interior To Impose a Federal Interstate Apportionment on the States, Without Their Consent, by a "Contractual Allocation Scheme"138

Statement of the Issue.....138

I. The Holding in *Arizona v. California*, 283 U.S. 423 (1931), Conclusively Determined That the Project Act Did Not Abrogate the Principles of Priority of Appropriation and Equitable Apportionment.....139

II. Even if the Issue Were Not Concluded by *Arizona v. California*, *Supra*, the Project Act Does Not Abrogate, but Preserves, Priority and Equitable Apportionment Principles145

A. Project Act Sections 18, 14, 8, and 4 Preserve Priority and Equitable Apportionment Principles145

1. Section 18145

2. Section 14147

3. Sections 8(a) and (b) and 4(a), First Paragraph158

B. Legislative History and Administrative and Practical Construction of the Project Act Confirm Preservation of Priority and Equitable Apportionment Principles158

1. Legislative History159

2. Subsequent Congressional Construction.....161

3. Administrative and Practical Construction....162

4. Statutory Scheme of the Reclamation Law....165

III. The Master Misconstrues and Misapplies Sections 5 and 8(b) of the Project Act.....	166
A. Section 5 of the Project Act Is Not a Source of Authority for the Interstate Allocation of "Mainstream" Waters	168
1. The Statutory Scheme of the Project Act....	169
2. Legislative History of Section 5.....	175
3. Senators Quoted by the Special Master.....	182
B. Section 8(b) Does Not Sustain the Master's Interpretation of Section 5.....	188
C. The Congressional Plan Is Wholly Contrary to That Deduced by the Special Master.....	191

PART FOUR

The Secretary's Water Delivery Contracts Do Not Establish Any Fractional "Contractual Allocation Scheme".....	195
I. The Master's Reasoning Refutes Itself: California Agencies Cannot Be Assumed To Have Accepted a "Federal Apportionment" More Adverse to California Than the Tri-State Compact That Congress Refused To Require and That California Refused To Ratify	195
II. The General Regulations Promulgated by the Secretary of the Interior Pursuant to the Project Act Refute the Inference That the Secretary Created Any "Contractual Allocation Scheme".....	196
III. None of the Elements of the Master's Contractual Allocation Scheme Are Found in the Water Delivery Contracts Themselves.....	200
A. The Delivery Contracts Do Not Purport To Apportion to Any State the Quantities Specified by the Master.....	201

B. The Circumstances Surrounding the Execution of the Water Delivery Contracts Belie the Existence of a "Contractual Allocation Scheme".....	204
IV. California's Rights Under the Secretary's Contractual Allocation, if He Made One, Are Controlled by the Proper Interpretation of the Limitation Act, to Which the Contracts Are Necessarily Subject.....	206
V. Shortages in "Article III(a) Waters" Are Borne Interstate Under Priority and Equitable Apportionment Principles; the Contracts Do Not Purport To Substitute Proration.....	211
A. Priority and Equitable Apportionment Principles Control the Burden of Bearing Shortages, Interstate, in "Article III(a) Waters".....	211
B. The Master's Conclusion That Shortages in "Article III(a) Waters" Are Borne Pro Rata Is Based Upon Inferences Improperly Drawn From Erroneous Constructions of the Controlling Documents	215
1. Proration of "Excess or Surplus" by the "Contractual Allocation Scheme".....	216
2. "Present Perfected Rights" Provision in Section 6 of the Project Act.....	217
3. Approval of the Colorado River Compact by the Project Act.....	221
4. The Tri-State Compact Set Forth in the Second Paragraph of Section 4(a) of the Project Act.....	222
5. The Principle of Sovereign Parity.....	225
6. Administrative Construction	227
C. The Master's Proration Scheme Would Provide an Illogical and Impractical Dual System of Water Rights in the Lower Basin.....	228

PART FIVE

The Dependable Water Supply Can and Must Be Determined232

- I. The Dependable Water Supply Must Be Determined To Establish the Existence of a Justiciable Controversy235**
- II. The Dependable Water Supply Must Be Determined To Compare the Result Proposed by the Decree With the Result Intended by Congress in 1928.....236**
- III. The Premises Upon Which the Master Decides That Dependable Water Supply Is Undeterminable Are in Error but, if Correct, Would Make the Controversy Nonjusticiable.....240**
- IV. The Master Overstates the Difficulty of Determining Water Supply.....241**
 - A. Necessity and Feasibility.....241**
 - B. What Is Meant by "Dependable Supply" or "Safe Annual Yield".....243**
 - C. The Magnitude of the Dependable Supply.....243**
 - 1. Controlling Factors.....243**
 - 2. Techniques of Determining Water Supply....243**
 - 3. Conclusions of the Experts.....245**
 - D. The Master's Rejection of the Experts' Determinations of Dependable Supply.....246**
 - E. The Effect To Be Given the Colorado River Compact246**
 - F. Consequences of the Master's Concept of Article III(a) of the Compact as a "Ceiling" on Appropriations Instead of an Apportionment in Perpetuity250**

1. The Legal Problem.....	250
2. The Factual Problem if the Compact Is Treated Merely as a "Ceiling" on Appropri- ations	251
G. Hydrologic Factors.....	253
1. The Master's General Criticism of the Sci- ence of Hydrology.....	253
2. Period Selected	254
3. The Difficulty of Operating Reservoirs.....	257
4. Bureau of Reclamation Studies, After the Close of Trial.....	259
V. The Proposed Allocation, Tested by the Realities of the Water Supply, Is Inconsistent and Inequitable....	261
A. Rights in Natural Flow Not Dependent on Storage	262
B. Allocation of the Benefits of Storage.....	263
C. Allocation of the Burden of Shortages.....	265
VI. The Proposed Allocation, Tested by the Realities of the Water Supply, Would Destroy the Water Rights of The Metropolitan Water District of Southern California, and Should Be Rejected on Equitable Grounds	266
VII. California Does Not Ask That Unused Upper Basin Water Waste to the Sea, but That the Risk of Its Ultimate Withdrawal Fall Upon the Projects Here- after Constructed To Use It.....	277

PART SIX

Miscellaneous Matters.....	279
1. The Colorado River Indian Reservation Boundary.....	279
2. Federal Rights for Indian Reservations and Other Fed- eral Lands.....	283

3. The Inappropriateness of Injunctive Relief.....	284
4. The Retention of Jurisdiction for Future "Main-stream"—"Tributary" Controversies	287
5. The Inclusion of Underground Water Uses.....	289
6. Holders of Natural Flow Rights Are Entitled to Water Delivery Contracts.....	290
CONCLUSION	292

APPENDIX

Description and Development of the California Projects.....	A1
1. The Seven-Party Agreement.....	A1
2. Palo Verde Irrigation District, California.....	A4
3. The All-American Canal Project (Imperial Irrigation District, Coachella Valley County Water District, and Yuma Project (Reservation Division)).....	A8
4. The Metropolitan Water District of Southern California (Colorado River Aqueduct Project).....	A25
5. Miscellaneous Uses in California.....	A36
6. Recapitulation: Investments in California Projects....	A37
Motion To Reopen the Trial for the Taking of Evidence re Depletion of the Colorado River at Lee Ferry by the Upper Basin and Statement in Support of Motion.....	A39

TABLES

1. Annual Beneficial Consumptive Use Requirements of Existing Main Stream Projects in California
2. Annual Beneficial Consumptive Use Requirements of Existing Main Stream Projects in Arizona
3. Annual Beneficial Consumptive Use Requirements of Existing Main Stream Projects in Nevada

4. Colorado River Storage Project and Lake Mead Summary of Operation, 1975 Conditions
5. Colorado River Storage Project and Lake Mead Summary of Operation, 2020 Conditions
6. Calculation of Future Usable Lower Basin Water Supply Based on 1960 Bureau of Reclamation Projection

PLATES

1. Map of the United States Showing Water Rights Doctrines and Their Relation to Average Annual Precipitation
2. Map: Alternate Diversion Routes From Main Colorado River in Lower Colorado River Basin
3. Diagrammatic Sketch Showing Contract and Noncontract Uses Along the Colorado River in Arizona and California
4. Comparison of Fluctuation in Annual Flow and Length of Record: Colorado River at Lee Ferry and North Platte River at Pathfinder
5. Comparison of Fluctuation in Annual Flow and Length of Record: Colorado River at Lee Ferry and Cache la Poudre River at Mouth of Cañon
6. Comparison of Fluctuation in Annual Flow and Length of Record: Colorado River at Lee Ferry and Laramie River
7. Schematic Diagram Showing Water Supply Available on Long Term Basis From Main Stream of Colorado River in Lower Basin (Period of Study 1909-1956)
8. Comparison of Long Term Main Stream Water Supply Studies

9. Allocation Under Special Master's Decree of Incremental Uses Made Possible by Hoover Dam Storage
10. Annual "Virgin" Flow of Colorado River at Lee Ferry and Requirements Dependent Thereon
11. Map: Colorado River Basin

TABLE OF AUTHORITIES CITED

CASES	PAGE
A. L. A. Schechter Poultry Corp. v. United States, 295 U.S. 495 (1935)	193
Arizona v. California, 283 U.S. 423 (1931)	
.....7, 46, 53, 66, 86, 108, 140, 141, 142, 143, 145 158, 162, 219, 239, 271	
Arizona v. California, 292 U.S. 341 (1934)	7, 105, 129
Arizona v. California, 298 U.S. 558 (1936)	
.....7, 8, 56, 142, 143, 165, 170, 271, 287	
Arkansas v. Tennessee, 246 U.S. 158 (1918)	279
Bean v. Morris, 221 U.S. 485 (1911)	62
Bemis, Charles Edmund, 48 L.D. 605 (1922)	A11
California Ore. Power Co. v. Beaver Portland Cement Co., 295 U.S. 142 (1935)	63
Collett, <i>Ex parte</i> , 337 U.S. 55 (1949)	124
Colorado v. Kansas, 320 U.S. 383 (1943)	65, 256
Conger v. Weaver, 6 Cal. 548 (1856)	55
Cox v. Hart, 260 U.S. 427 (1922)	A11
Deseret Water, Oil & Irr. Co. v. California, 167 Cal. 147, 138 Pac. 981 (1914), <i>rev'd on other grounds</i> , 243 U.S. 415 (1917)	283
Duparquet Huot & Moneuse Co. v. Evans, 297 U.S. 216 (1936)	100
FCC v. Columbia Broadcasting Sys., 311 U.S. 132 (1940)	124
Florida v. Georgia, 58 U.S. (17 How.) 478 (1855)	114
Fox v. Ickes, 137 F.2d 30 (D.C. Cir. 1943), <i>cert. denied</i> , 320 U.S. 792 (1943)	151
FPC v. Niagara Mohawk Power Corp., 347 U.S. 239 (1954)	142
Fults, Bill, 61 I.D. 437 (1954)	A11
Gila Valley Irr. Dist. v. United States, 118 F.2d 507 (9th Cir. 1941)	169
Gingery, Christopher C., 45 L.D. 50 (1916)	A11

Green v. Biddle, 21 U.S. (8 Wheat.) 1 (1823).....	129
Hart v. Cox, 42 L.D. 592 (1913), <i>rev'd on other grounds</i>	A11
Hazel, Assignee of Patterson, 53 I.D. 644 (1932).....	A11
Hecht v. Malley, 265 U.S. 144 (1924).....	144
Helvering v. Griffiths, 318 U.S. 371 (1943).....	192
Hinderlider v. La Plata River & Cherry Creek Ditch Co., 304 U.S. 92 (1938).....	129, 145
Howell v. Johnson, 89 Fed. 556 (C.C.D. Mont. 1898).....	61
Iasigi, Theodore A., 39 L.D. 285 (1910).....	A11
Ickes v. Fox, 300 U.S. 82 (1937).....	151, 152, 157, 175
Indiana v. Kentucky, 136 U.S. 479 (1890).....	279
Irwin v. Phillips, 5 Cal. 140 (1855).....	55
Ivanhoe Irr. Dist. v. McCracken, 357 U.S. 275 (1958).....	174
J. W. Hampton, Jr. & Co. v. United States, 276 U.S. 394 (1928)	192
Kansas v. Colorado, 185 U.S. 125 (1902).....	63
Kansas v. Colorado, 206 U.S. 46 (1907).....	141, 226, 272
Kansas v. Missouri, 322 U.S. 213 (1944).....	279
Kentucky Union Co. v. Kentucky, 219 U.S. 140 (1911).....	129
Nebraska v. Wyoming, 325 U.S. 589 (1945).....	
.....	38, 47, 53, 55, 63, 65, 146, 150, 151, 152
.....	157, 169, 172, 173, 174, 235, 242, 254, 256, 257
Neil, Moore & Co. v. Ohio, 44 U.S. (3 How.) 720 (1845).....	129
New York v. New Jersey, 256 U.S. 296 (1921).....	2
Oakley, Herbert C., 34 L.D. 383 (1906).....	A11
Panama Refining Co. v. Ryan, 293 U.S. 388 (1935).....	193
Patterson, Virgil, 40 L.D. 264 (1911).....	A11
Rhode Island v. Massachusetts, 37 U.S. (12 Pet.) 657 (1838)	129
Rhode Island v. Massachusetts, 45 U.S. (4 How.) 591 (1846)	129
Schwegmann Bros. v. Calvert Distillers Corp., 341 U.S. 384 (1951)	121, 124

Searight v. Stokes, 44 U.S. (3 How.) 151 (1845).....	129
Shapiro v. United States, 335 U.S. 1 (1948).....	144
Stearns v. Minnesota, 179 U.S. 223 (1900).....	129
Tacoma v. Taxpayers of Tacoma, 357 U.S. 320 (1958).....	271
United States v. Ahtanum Irr. Dist., 236 F.2d 321 (9th Cir. 1956), <i>cert. denied</i> , 352 U.S. 988 (1957).....	133
United States v. Arizona, 295 U.S. 174 (1935).....	
.....	7, 66, 144, 145, 158, 166, 271, 282
United States v. Fallbrook Pub. Util. Dist., 165 F. Supp. 806 (S.D. Cal. 1958).....	62, 166
United States v. Gerlach Live Stock Co., 339 U.S. 725 (1950)	63, 142
United States v. Jefferson Elec. Mfg. Co., 291 U.S. 386.....	166
United States v. Louisiana, 363 U.S. 1 (1960).....	133, 160
United States v. Spelar, 338 U.S. 217 (1949).....	124
United States v. Utah, 283 U.S. 64 (1931).....	282
United States v. Wrightwood Dairy Co., 315 U.S. 110 (1942)	121
Virginia v. Tennessee, 148 U.S. 503 (1893).....	129
Virginia v. West Virginia, 220 U.S. 1 (1911).....	129
Washington v. Oregon, 297 U.S. 517 (1936).....	64, 256, 272
Weiland v. Pioneer Irr. Co., 259 U.S. 498 (1922).....	62
West Virginia <i>ex rel.</i> Dyer v. Sims, 341 U.S. 22 (1951).....	129
White, Margaret T., 42 L.D. 569 (1913).....	A11
Whitman, Margaret S., 45 L.D. 599 (1917).....	A11
Willey v. Decker, 11 Wyo. 496, 73 Pac. 210 (1903).....	61
Willoughby, George B., 60 I.D. 363 (1949).....	A11
Wyoming v. Colorado, 259 U.S. 419 (1922).....	
.....	38, 47, 55, 60, 62, 63, 65, 150, 159 174, 226, 242, 255, 256, 285, 286
Yeo v. Tweedy, 34 N.M. 611, 286 Pac. 970 (1929).....	59
Yuba River Power Co. v. Nevada Irr. Dist., 207 Cal. 521, 279 Pac. 128 (1929).....	174

CONSTITUTIONS AND TREATIES

U.S. CONST. art. I, § 10, cl. 3.....	114
U.S. CONST. art. III, § 2, cl. 2.....	2
Treaty With Mexico Respecting Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande, Feb. 3, 1944, 59 Stat. 1219, T.S. No. 994 (effective Nov. 8, 1945).....	20, 26, 28, 41, 78, 99, 136, 232 234, 243, 245, 249, 274

INTERSTATE COMPACTS AND STATUTES

Act of Aug. 15, 1894, 28 Stat. 332.....	A13
Act of June 17, 1902, 32 Stat. 388.....	62, 145
Act of April 21, 1904, 33 Stat. 224.....	A13
Act of May 18, 1920, 41 Stat. 600.....	A16
Act of Jan. 29, 1925, 43 Stat. 796.....	88
Act of March 7, 1927, ARIZ. LAWS 1927, ch. 37, p. 84.....	133
Act of May 17, 1927, CAL. STATS. 1927, ch. 596, p. 1030, §§ 2, 5.....	134
Act of July 3, 1930, 46 Stat. 877-78.....	162
Act of June 18, 1932, 47 Stat. 324.....	271
Act of Aug. 30, 1935, 49 Stat. 1039.....	271
Act of Aug. 9, 1937, ch. 570, 50 Stat. 595.....	144, 164
Act of April 15, 1948, 62 Stat. 171.....	271
Act of April 6, 1949, 63 Stat. 31.....	88
Act of Oct. 11, 1951, 65 Stat. 404.....	271
ARIZ. LAWS 1927, ch. 37.....	161
Boulder Canyon Project Act, 45 Stat. 1057 (Dec. 21, 1928), 43 U.S.C. §§ 617-617t (1958):	
Sec. 1	13, 25, 101, 102, 112, 113, 166, 169, 175, 180

Sec. 4(a)	4, 26, 27, 30, 40, 41, 42, 67, 69, 70, 71, 74 78, 81, 82, 83, 85, 86, 87, 89, 91, 92, 93, 94 95, 96, 99, 100, 101, 102, 103, 105, 106, 107 111, 116, 118, 120, 122, 123, 127, 128, 129 130, 131, 132, 133, 134, 138, 145, 158, 159 160, 184, 187, 189, 190, 193, 195, 196, 200 201, 207, 209, 211, 216, 222, 223, 224, 227 238, 267
Sec. 4(b)	175, 188, 190, 268, 269
Sec. 5	25, 101, 127, 149, 150, 153, 157, 166, 168 169, 173, 174, 175, 176, 177, 178, 180, 181 182, 189, 190, 193, 195, 197, 200, 209, 212 267, 269, 290
Sec. 5(a)	190, 198
Sec. 5(b)	190
Sec. 5(c)	190, 197, 198
Sec. 6	28, 29, 95, 102, 113, 170 174, 216, 217, 218, 219, 221
Sec. 8	53, 63, 101, 102, 145, 146, 147, 149, 150, 159 173, 174, 188, 209
Sec. 8(a)	104, 113, 158, 175, 180, 189, 193
Sec. 8(b)	25, 158, 166, 188, 189, 190, 191, 192
Sec. 12	56, 62, 102, 146, 147, 175
Sec. 13	102
Sec. 13(a)	102, 103, 114, 129, 159
Sec. 13(b)	95, 175, 180, 193
Sec. 13(c)	95, 113, 175, 180, 193
Sec. 13(d)	95
Sec. 14	46, 53, 56, 62, 145, 146, 147, 148, 149, 150 158, 160, 175, 188, 193, 219
Sec. 15	95, 111
Sec. 16	111

Sec. 18.....	46, 102, 142, 145, 146, 147, 148, 162 188, 193, 218, 219, 230
Sec. 19.....	101, 102, 111, 113, 160, 190
Boulder Canyon Project Adjustment Act of 1940, § 14, 54	
Stat. 779, 43 U.S.C. § 618m (1958).....	144, 162
California Limitation Act, CAL. STATS. 1929, ch. 16, at 38....	
	3, 12, 26, 35, 37, 40, 41, 52, 66, 67, 69, 70, 72, 79 85, 93, 106, 107, 110, 116, 129, 130, 131, 132, 133 134, 136, 194
CAL. STATS. 1923, ch. 87, § 1.....	174
CAL. STATS. 1929, ch. 367, § 2.....	134
Colorado River Compact, H.R. Doc. No. 717, 80th Cong., 2d Sess. A17 (1948)	
Art. I	82
Art. II(a)	71, 116, 123
Art. II(g)	8, 71
Art. III(a)	
	4, 26, 27, 40, 41, 43, 49, 51, 67, 70, 71, 73, 74 79, 80, 81, 82, 84, 86, 91, 95, 101, 103, 106, 107 108, 109, 116, 119, 120, 122, 131, 135, 137, 185 210, 211, 213, 215, 216, 217, 218, 221, 222, 223 224, 227, 246, 248, 250
Art. III(b).....	27, 35, 41, 73, 81, 82, 86, 95, 105, 106 107, 108, 109, 135, 185, 206, 210, 221, 222, 248
Art. III(c).....	72, 81, 82, 95, 99, 102, 107, 108, 109 117, 137, 221, 222, 242, 246, 267
Art. III(d).....	81, 83, 84, 103, 117, 119, 122, 221 222, 244, 245, 246, 247, 248, 251
Art. III(e)	93
Art. III(f)	73, 82, 91, 92, 107, 137
Art. III(g)	73, 92, 137
Art. IV	147
Art. VIII	83, 102

Art. XI.....	102, 103, 129
Colorado River Storage Project Act of 1956, 70 Stat. 105, 43 U.S.C. §§ 620-620o (1958).....	62, 111, 145, 245, 252, 253
Desert Land Act § 1, 19 Stat. 377 (1877), as amended, 43 U.S.C. § 321 (1958).....	62, A5, A10
Federal Power Act § 27, 41 Stat. 1077, 16 U.S.C. § 821 (1958)	142
Flood Control Act of 1944, § 1, 58 Stat. 887, 33 U.S.C. § 701-1 (1958).....	165
FLA. LAWS 1957, ch. 57-380.....	61
IOWA LAWS 1957, ch. 229.....	61
La Plata River Compact, 43 Stat. 796 (1925).....	88
MISS. LAWS 1956, ch. 164.....	61
Model Water Use Act §§ 303, 306.....	61
Omnibus Adjustment Act of 1926, § 46, 44 Stat. 649, as amended, 43 U.S.C. § 423e (1958).....	173
Reclamation Act of 1902, § 8, 32 Stat. 390, 43 U.S.C. §§ 372, 383 (1958).....	147, 53, 56, 62, 63, 66, 142, 145, 146 147, 148, 149, 150, 153, 159, 173, 213, 219
Reclamation Project Act of 1939, § 9(d), 53 Stat. 1195, as amended, 43 U.S.C. § 485h(d) (1958).....	173, 174
Rivers and Harbors Act of 1899, § 10, 30 Stat. 1121, 33 U.S.C. § 403 (1958).....	A12
Special Use Statute, 41 Stat. 451 (1920), 43 U.S.C. § 521 (1958)	153
Upper Colorado River Basin Compact, 63 Stat. 31 (1949).....	88
28 U.S.C. § 1251(a)(1) (1958).....	2
Warren Act, 36 Stat. 925 (1911), 43 U.S.C. §§ 523-25 (1958)	153

DEBATES, HEARINGS, DOCUMENTS, BILLS, REPORTS

63 CONG. REC. (1922)	115
64 CONG. REC. (1923)	115
67 CONG. REC. (1926)	66, 112
68 CONG. REC. (1927)	65, 66, 112, 124, 125, 149
69 CONG. REC. (1928)	65, 66, 181, 191
70 CONG. REC. (1928)	65, 66, 87, 97, 98, 109, 114, 115 118, 120, 122, 123, 146, 181, 182, 183 184, 185, 186, 187, 188, 224, 236, 238
72 CONG. REC. (1930)	161
H.R. 5773, 70th Cong., 1st Sess. (1927)	177
H.R. 13480, 67th Cong., 4th Sess. § 1	115
H.R. Doc. No. 136, 81st Cong., 1st Sess. (1949)	165
H.R. Doc. No. 419, 80th Cong., 1st Sess. (1947)	7, 252
H.R. Doc. No. 605, 67th Cong., 4th Sess. (1923)	115
H.R. Doc. No. 717, 80th Cong., 2d Sess. (1948)	239
H.R. REP. No. 918, 70th Cong., 1st Sess., pt. 1 (1928)	112, 113, 115, 177, 181
H.R. REP. No. 1657, 69th Cong., 2d Sess., pt. 1 (1926)	115, 149, 177
H.R. REP. No. 1657, 69th Cong., 2d Sess., pt. 2 (1927)	87
<i>Hearings Before the Senate Committee on Foreign Relations on a Treaty With Mexico Relating to the Utilization of the Waters of Certain Rivers, 79th Cong., 1st Sess. (1945)</i>	136
<i>Hearings Before a Subcommittee of the House Committee on Appropriations on the Interior Department Bill for 1938, 75th Cong., 1st Sess. (1937)</i>	144
<i>Hearings on H.R. 2903 Before the House Committee on Irrigation and Reclamation, 68th Cong., 1st Sess. (1924)</i>	115
<i>Hearings on H.R. 5434 Before the House Committee on Irrigation and Reclamation, 79th Cong., 2d Sess. (1946)</i>	206

<i>Hearings on H.R. 5773 Before the House Committee on Irrigation and Reclamation, 70th Cong., 1st Sess. (1928)</i>	112, 177, 180, 181
<i>Hearings on H.R. 6251 and H.R. 9826 Before the House Committee on Irrigation and Reclamation, 69th Cong., 1st Sess. (1926)</i>	87, 97, 115, 175, 176, 178, 180, 191, 219
<i>Hearings on H.R. 9826 Before the House Committee on Rules, 69th Cong., 2d Sess. (1927)</i>	66, 148, 175, 180, 183
<i>Hearings on H.R. 12902 Before the Subcommittee of the Senate Committee on Appropriations, 71st Cong., 2d Sess. (1930)</i>	161, 183, 185
<i>Hearings on S. 727 Before the Senate Committee on Irrigation and Reclamation, 68th Cong., 2d Sess. (1925)</i>	115, 119
<i>Hearings on S. 728 and S. 1274 Before the Senate Committee on Irrigation and Reclamation, 70th Cong., 1st Sess. (1928)</i>	90, 119, 181
<i>Hearings Pursuant to S. Res. 320 Before the Senate Committee on Irrigation and Reclamation, 69th Cong., 1st Sess. (1925)</i>	99, 112, 115, 119
S. 107, 87th Cong., 1st Sess. (1961).....	253
S. 728, 70th Cong., 1st Sess. (1927).....	90, 177
S. Doc. No. 77, 85th Cong., 2d Sess. (1958).....	260
S. Doc. No. 79, 86th Cong., 2d Sess. (1960).....	256
S. Doc. No. 142, "Fall-Davis Report," 67th Cong., 2d Sess. (1922)	12
S. Doc. No. 249, 78th Cong., 2d Sess. (1944).....	A33
S. EXEC. REF. No. 2, 79th Cong., 1st Sess. (1945).....	136, 137
S. REP. No. 592, 70th Cong., 1st Sess., pt. 1 (1928).....	34, 111, 112, 113, 177, 181, A33
S. REP. No. 654, 69th Cong., 1st Sess. (1926).....	149

TREATISES AND MISCELLANEOUS

BUREAU OF RECLAMATION, REGION 4, U.S. DEP'T OF THE INTERIOR, FINANCIAL AND POWER RATE ANALYSIS, COLORADO RIVER STORAGE PROJECT AND PARTICIPATING PROJECTS (September 1960).....	242, 253, 259, 260
BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, CUMULATIVE SUPPLEMENT TO BUREAU OF RECLAMATION APPROPRIATION ACTS AND ALLOTMENTS (1957).....	144
Fisher, <i>Western Experience and Eastern Appropriation Proposals</i> in THE CONSERVATION FOUNDATION, LAW OF WATER ALLOCATION IN THE EASTERN STATES (Haber & Bergen eds. 1958).....	61
Frankfurter & Landis, <i>The Compact Clause of the Constitution—A Study in Interstate Adjustments</i> , 34 YALE L.J. 685 (1925)	114
Freund, <i>The Use of Indefinite Terms in Statutes</i> , 30 YALE L.J. 437 (1921).....	103
INSTITUTE OF LAW AND GOVERNMENT OF THE SCHOOL OF LAW, UNIVERSITY OF GEORGIA, A STUDY OF THE RIPARIAN AND PRIOR APPROPRIATION DOCTRINES OF WATER LAW (1955)	61
Jones, <i>The Plain Meaning Rule and Extrinsic Aids in the Interpretation of Federal Statutes</i> , 25 WASH. U.L.Q. 2 (1939)	124
KINNEY, IRRIGATION § 649 (2d ed. 1912).....	100
LONG, IRRIGATION § 135 (2d ed. 1916).....	100
2 SUTHERLAND, STATUTORY CONSTRUCTION (3d ed. Horack 1943)	100
THURSBY, INTERSTATE COOPERATION (1953).....	114
W. B. Langbein, <i>Water Yield and Reservoir Storage in the United States</i> , U.S. GEOLOGICAL SURVEY OPEN FILE REPORT (June 1958).....	244

Ziegler, <i>Statutory Regulation of Water Resources in WATER RESOURCES AND THE LAW</i> (1958).....	61
ZIMMERMANN & WENDELL, <i>THE INTERSTATE COMPACT SINCE 1925</i> (1951).....	114, 129

OPENING BRIEF*

This single consolidated brief of all eight California defendants¹ is filed in accordance with the notice accompanying the order of the Court (364 U.S. 940), dated January 16, 1961.²

REPORT OF THE SPECIAL MASTER**

On January 16, 1961, this Court received and ordered filed (364 U.S. 940) the Report of the Special Master, dated December 5, 1960, which was submitted under this order of reference (347 U.S. 986 (1954)):

"The master³ is directed to find the facts specially and state separately his conclusions of law thereon, and to submit the same to this Court with all convenient speed, together with a draft of the decree recommended by him. The findings, conclusions, and recommended decree of the master shall be subject to consideration, revision, or approval by the Court."

¹State of California (*parens patriae*) and seven public agencies of this state: Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, The Metropolitan Water District of Southern California, City of Los Angeles, City of San Diego, and County of San Diego.

²Pursuant to that notice, exceptions to the Special Master's Report were filed with the Court on February 27, 1961; this opening brief is filed on May 22, 1961; our answering brief is to be filed August 14, 1961; and our reply brief is to be filed October 2, 1961.

³(Footnote ours.) Hon. Simon H. Rifkind was appointed Special Master in 1955, succeeding Hon. George I. Haight, deceased. 350 U.S. 812.

*The appendix of this brief consists of (1) a description of the California projects and their development and (2) tables 1-6 and plates 1-11 referred to during the course of this brief.

**In this brief, "Rep. 103" refers to page 103 of the Report; "Rep. app. No. 2" refers to appendix number 2; "Rep. app. 416" refers to page 416 which is in the appendixes.

JURISDICTION

This Court has jurisdiction of the parties and of the subject matter of the case as tendered by the pleadings of all parties, under the provisions of article III, section 2, clause 2, of the Constitution of the United States, and 28 U.S.C. § 1251(a)(1) (1958). Arizona's motion for leave to file her bill of complaint against the California defendants was not opposed, and the motion was granted on January 19, 1953. (344 U.S. 919.)

Two further jurisdictional issues remain: (1) Is this suit presently ripe for adjudication as a "case" or "controversy" within the judicial power of the United States Supreme Court? U.S. CONST. art. III, § 2, cl. 2. (2) Is this suit appropriate for adjudication within the original jurisdiction of this Court over suits among states by presenting a "threatened invasion of rights" which is "of serious magnitude" and "established by clear and convincing evidence"? *New York v. New Jersey*, 256 U.S. 296, 309 (1921). See Rep. 130, 319-20. These questions of justiciability, inseparable from the water supply issues, are considered in detail in the Argument *infra* pp. 235-36, 246-53.

DOCUMENTS INVOLVED

The text of the Compact, statutes, and some of the contracts involved in this litigation are set forth in the appendixes to the Report of the Special Master (Rep. app. Nos. 2-8).

1. Colorado River Compact (Rep. app. No. 2)⁴

⁴Ariz. Ex. 1 (Tr. 214).

2. Boulder Canyon Project Act of Dec. 21, 1928, 45 Stat. 1057, 43 U.S.C. §§ 617-617t (1958) (Rep. app. No. 3)⁵
3. California Limitation Act, CALIF. STATS. 1929, ch. 16, at 38 (Rep. app. No. 4)⁶
4. Water delivery contracts executed over a 50-year period between the Secretary of the Interior and states, public agencies, and individuals, most of which are tabulated in appendix F, volume 2 of California's Proposed Findings of Fact and Conclusions of Law⁷ (see Rep. app. Nos. 5-8 for the contracts with the states of Nevada and Arizona and the Palo Verde Irri-

⁵Ariz. Ex. 7 (Tr. 222).

⁶Ariz. Ex. 14 (Tr. 232).

⁷The following water delivery contracts are not included in appendix F:

(a) Contract between the Secretary and the City of Yuma, Arizona, approved in 1960 after the trial had concluded (Calif. Ex. 7611 for *idem*. (Tr. 22,760)).

(b) Water right applications with individual water users in the Bard Irrigation District (Tr. 8,819-20; Calif. Ex. 50 (Tr. 6,898)), the non-Indian portion of the Yuma Project in California, which has no water delivery contract. On approval by the Secretary, the water right applications become the only contracts for the use of water within that project. Exemplary contracts (executed both before and after the Project Act) are Calif. Exs. 378-380 (Tr. 8,852), discussed *infra* pp. 152-55.

(c) Contract between the Secretary and the Yuma County Water Users' Association, executed in 1906 for use of water within the Valley Division of the Yuma Project (U.S. Ex. 19-T (Tr. 15,518)). This contract controlled deliveries of water to the Valley Division of the Yuma Project until the parties executed a supplemental contract in 1951 (Ariz. Ex. 92 (Tr. 357)).

(d) Contract between the Secretary and the North Gila Valley Irrigation District, executed in 1918 for use of water within the North Gila Valley (Ariz. Ex. 91 (Tr. 356)). This contract controlled deliveries of water to the North Gila Valley until the parties executed a supplemental contract in 1953 (Ariz. Ex. 95 (Tr. 360)).

gation District, representative of the California agency contracts)

QUESTIONS PRESENTED

1. The critical words in the first paragraph of section 4(a) of the Boulder Canyon Project Act, repeated substantially *in haec verba* in the reciprocal California Limitation Act, are identified by bracketed numbers and emphasis in the following quotation from the statute (Rep. app. 382):

“California . . . shall agree . . . that the aggregate annual consumptive use . . . of water . . . from the Colorado River for use in the State of California . . . shall not exceed four million four hundred thousand acre-feet of the [1] *waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact*, plus not more than one-half of any [2] *excess or surplus waters unapportioned by said compact*, such uses always to be subject to the terms of said compact.”

The questions presented are:

(a) Do the emphasized words identified by the bracketed [1] refer to Article III(a) of the Colorado River Compact which apportions to the lower basin the beneficial consumptive use of 7,500,000 acre-feet per annum from the waters of the Colorado River system (main stream and tributaries); or do those words refer, not to the Compact or any provision thereof, but to the first 7,500,000 acre-feet of water per annum available for consumptive use from the “mainstream” (defined by the Report as Lake Mead and the main Colorado

River below Lake Mead, excluding all tributary systems in the lower basin and the main Colorado River between Lee Ferry and Lake Mead)?

(b) Do the emphasized words identified by the bracketed [2] refer to any provisions of the Compact; or do those words refer, not to the Compact, but to all water available for consumptive use from the "mainstream" (as defined in the Report) in excess of the first 7,500,000 acre-feet?

2. Did the Boulder Canyon Project Act abrogate equitable apportionment and priority of appropriation principles within the "mainstream" (as defined in the Report), excepting only "present perfected rights" (however defined), and delegate authority to the Secretary of the Interior to make an interstate allocation of "mainstream" waters among Arizona, California, and Nevada by the execution of water delivery contracts?

3. If Congress delegated such authority to the Secretary, did successive Secretaries of the Interior between 1930 and 1944 allocate the first 7,500,000 acre-feet of "mainstream" water available for consumptive use 28/75 to Arizona, 44/75 to California, and 3/75 to Nevada, disregarding all priorities except "present perfected rights," (defined in the Report as (a) quantities of water consumptively used as of June 25, 1929, and (b) rights of the United States pursuant to federal reservations made prior to June 25, 1929, without regard to use), and did they allocate "excess or surplus" above that 7,500,000 acre-feet equally between California and Arizona (subject to reduction of Arizona's half by future contract with Nevada)?

4. Is the existence of a justiciable controversy ascertainable in the absence of a determination of the dependable (permanent) water supply of the main Colorado River in the lower basin?

5. Is the determination of the dependable (permanent) water supply of the main Colorado River necessary to resolve the issues on the merits?

STATEMENT OF THE CASE

I. PROCEDURAL STATEMENT

The present case is the fifth suit in the original jurisdiction of this Court affecting the lower basin of the Colorado River, although it is the first in which evidence has been taken.¹

Arizona's present suit against the California defendants was precipitated by her claim for a dependable and permanent water supply for the proposed Central Arizona Project. (Rep. 30-31, 130-31.) That project was designed to divert 1,200,000 acre-feet of water from the main Colorado River for irrigation in the Phoenix area of central Arizona.² Alternative diversion points for the project were considered at Parker Dam (below Lake Mead) and at Bridge or Marble canyons (above Lake Mead).³

In 1948, the Secretary of the Interior reported to Congress that there would be a dependable water supply for this new project if the legal contentions then advanced by Arizona were correct, but not if the legal contentions of California were correct. After exhaustive congressional consideration of bills to authorize the project, the House Interior and Insular Affairs Committee in 1951 by resolution refused to consider Central

¹Prior suits were *Arizona v. California*, 283 U.S. 423 (1931); *Arizona v. California*, 292 U.S. 341 (1934); *United States v. Arizona*, 295 U.S. 174 (1935); *Arizona v. California*, 298 U.S. 558 (1936).

²*Ariz. Ex. 71 (Tr. 310)* (Dep't of the Interior report on the Central Arizona Project), at 116, 150-52.

³Rep. 227. See also *Ariz. Ex. 71, supra* note 2, at 117; H.R. Doc. No. 419, 80th Cong., 1st Sess. 179-80 (1947), other portions of which are *Ariz. Ex. 64 (Tr. 290)*; Tr. 4, 121 (Akin). *Accord*, 13 ARIZ. INTERSTATE STREAM COMM'N ANN. REP. 31 (1960), quoted *infra* p. 125.

Arizona Project legislation further until that controversy was resolved by agreement or by litigation. (Rep. 30-31, 130-31.)

Arizona brought the controversy to this Court in 1952 (Rep. 1). The California defendants welcomed the opportunity for its resolution.⁴ The United States (an indispensable party)⁵ intervened, as did Nevada, and, on motion of the California defendants, Utah and New Mexico were joined with respect to their interest in "Lower Basin waters."⁶ (Rep. 2.) Thus, all states of the lower basin as defined in the Colorado River Compact⁷ are now before the Court.

Issues were joined on the pleadings of all parties, and the case was referred to the Special Master for hearing and recommendation. After pre-trial conference and a trial conducted over a three-year period, the parties simultaneously submitted proposed findings of fact, conclusions of law, and supporting briefs⁸ and,

⁴Calif. Return To Rule To Show Cause and Brief in Support of Return, filed Dec. 8, 1952, pp. 1-2, 5-6, 13.

⁵Arizona v. California, 298 U.S. 558 (1936).

⁶California moved to join as necessary parties the states of Colorado, New Mexico, Utah, and Wyoming. The Court denied our motion to join Colorado and Wyoming, but granted the motion to join Utah and New Mexico "only to the extent of their interest in Lower Basin waters." 350 U.S. 114 (1955) (5-3 decision).

⁷Colorado River Compact art. II(g) (Rep. app. 372):

"The term 'Lower Basin' means those parts of the States of Arizona, California, Nevada, New Mexico, and Utah within and from which waters naturally drain into the Colorado River System below Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River System which are now or shall hereafter be beneficially served by waters diverted from the System below Lee Ferry."

⁸Tr. 21,666-71. During the course of this brief we shall occasionally refer to our own proposed findings and conclusions, which are part of the record before the Court, as a convenient way of avoiding multiple references to the transcript and exhibits. Each proposed finding is annotated with citations to the evidence.

subsequently, simultaneous answering and rebuttal briefs. On July 1, 1959, the matter was submitted for consideration. (Rep. 2-3.) On May 5, 1960, the Master circulated among the parties his draft report for the purpose of receiving their suggestions. On motion by the California defendants, oral argument was held in New York City on August 17-19, 1960, on the draft report and recommended decree. (Rep. 3-4.)

The Report of the Special Master, dated December 5, 1960, which makes no material changes in the decision proposed by the draft report, was received and ordered filed by this Court on January 16, 1961 (364 U.S. 940).⁹ The parties are now before the Court on exceptions to that Report, which the parties filed on February 27, 1961.

II. THE CALIFORNIA DEFENDANTS

The California defendants are the State of California, *parens patriae*, and seven public agencies of this state which depend upon Colorado River water.¹ These de-

⁹To avoid multiple citations to the transcript, exhibits, and other materials, we cite the Master's Report as a convenient reference to factual and procedural matters not in dispute.

¹These defendants are Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, The Metropolitan Water District of Southern California, City of Los Angeles, City of San Diego, and County of San Diego. The latter cities and county are included within the boundaries of, and are served with Colorado River water by, Metropolitan Water District.

defendants divert and use Colorado River water for three projects:²

(1) Palo Verde Irrigation District Project (Rep. 35, 58-60).

(2) All-American Canal Project (Rep. 35, 36-38), which serves defendants Imperial Irrigation District (Rep. 53-55) and Coachella Valley County Water District (Rep. 55-58), and the Yuma Project (Reservation Division, including the Bard District^{2a}) in California (Rep. 60-61).

(3) The Metropolitan Water District of Southern California (Rep. 61-69), whose Colorado River Aqueduct (Rep. 38-39) serves the southern California coastal plain, including defendants City of Los Angeles and City and County of San Diego (see Rep. 69-71).

A detailed description of each California project and agency, the area served by each, and the progressive stages of development of each is appended to this brief. (See also table 1. *infra*.)

Water rights were first initiated for the Palo Verde area in 1877 (appendix, p. A4), for the Imperial and Coachella areas in 1893-1899 (appendix, p. A10), for the Yuma area in 1905 (appendix, pp. A13-14), and for what is now the Metropolitan Water District service area in 1924 and 1926 (appendix, pp. A28-29).

²There are no tributaries of the Colorado River system in California (Rep. 11), and all three California projects now have access to its waters only from the main Colorado River below Hoover Dam. (See map of Colorado River basin, plate 11 *infra*.)

^{2a}Tr. 8,819-20; Calif. Ex. 50 (Tr. 6,898).

Although there is some dispute about exact quantities, there is no dispute that several hundred thousand acres requiring the consumptive use³ of substantially more than 2,000,000 acre-feet per annum of Colorado River water were irrigated in California in the Palo Verde, Imperial, and Yuma areas by November 24, 1922,⁴ when the Colorado River Compact was signed by its negotiators (Rep. 24). Nor is there any dispute that nearly a half million acres requiring the consumptive use of more than 2,900,000 acre-feet per annum of Colorado

³Meaning diversions less return flows. See Rep. 148-49, 186, 345 (Decree art. I(A)).

⁴Consumptive use in 1922 is computed to have been 106,560 acre-feet for 32,644 acres in Palo Verde (Calif. Ex. 356 (Tr. 8,729)) and 48,522 acre-feet for 13,122 acres in Yuma Project (Reservation Division), California (Calif. Ex. 376 (Tr. 8,842)). In 1922, Imperial diverted 2,890,282 acre-feet with 413,400 net acres irrigated and in 1920 had diverted over 3,000,000 acre-feet with 414,720 net acres irrigated (Calif. Ex. 270 (Tr. 8,127)). Because Imperial is outside of the natural drainage basin of the Colorado River, its consumptive use is very nearly equal to its diversions. From 1901 to 1942, Colorado River water was diverted for Imperial Valley through the Alamo Canal, which ran partly through Mexico (Rep. 54-55). The portion of the water taken from the Alamo Canal for use in Mexico was a necessary loss incurred in bringing the water to Imperial Valley. This loss, which has been salvaged by construction of the All-American Canal, averaged less than 20% of the total annual diversion during the 1926-1930 period. (Calif. Ex. 273 (Tr. 8,140).)

See Ariz. Reply to Calif. Answer, par. 4, p. 13: "Admits that on November 24, 1922, irrigation distribution systems were in operation providing service to Palo Verde, Imperial, and the Yuma Project in California. . . . [A]lleges that as of said date the irrigated acreage so served did not exceed 461,000 acres and the beneficial consumptive use thereon of Colorado River System water did not exceed 2,350,000 acre-feet per year."

River water were irrigated in those three areas by June 25, 1929,⁵ when the Boulder Canyon Project Act, the California Limitation Act, and the Compact itself (as among six of the seven signatory states, except Arizona) all became effective simultaneously upon presidential proclamation thereof (Rep. 26-27).

Construction of the All-American Canal,^{5a} which was

⁵Arizona and Nevada concede that by June 25, 1929, about 2,900,000 acre-feet had been put to use in these three areas. Ariz. Reply to Calif. Answer, par. 28(b), p. 26: "Alleges that on June 25, 1929, projects had been constructed and were in operation in California for the irrigation of no more than 473,500 acres of land which required a net main stream depletion of about 2,902,000 acre-feet of water per annum"; Nev. Comments on Draft Report, dated June 6, 1960, pp. 10-13, 24-26, submitting that "present perfected rights" in California for non-Indian projects (limited, as defined in the Report, to the quantity of water put to consumptive use by June 25, 1929 (Rep. 307-08)) be determined from the record as 2,944,560 acre-feet per annum, comprising present perfected rights for "Palo Verde Valley" (120,560 acre-feet); "Yuma Project, Bard Dist." (17,000 acre-feet), and "Imperial Irr. Dist." (2,807,000 acre-feet).

California submitted Supplemental and Alternative Findings of Fact and Conclusions of Law, dated June 1, 1959 (bound with Calif. Responses of that date), showing that as of June 25, 1929, approximately 3,275,000 acre-feet had been put to beneficial consumptive use in these three areas (including all necessary losses in Mexico from the Imperial diversion, *supra* note 4) for the irrigation of 461,000 acres (supplemental conclusion 19D:202, pp. XIX-27 through 28); that as of June 25, 1929, diversion works and canals had been constructed in these three areas for the irrigation of approximately 703,600 acres with a beneficial consumptive use requirement of approximately 3,707,100 acre-feet per annum (supplemental conclusion 19D:201, pp. XIX-25 through 26); and that these three water users could have taken and consumed from the natural flow of the Colorado River without Hoover Dam regulation about 4,490,500 acre-feet per annum under their senior rights preexisting June 25, 1929 (supplemental findings and conclusions, part XIX-C, pp. XIX-18 through 23).

^{5a}For early reports on the All-American Canal, see, *e.g.*, Calif. Ex. 185 (Tr. 7,647) ("Report of the All-American Canal Board," dated July 22, 1919); Ariz. Ex. 45 (Tr. 254) (S. Doc. No. 142, "Fall-Davis Report," 67th Cong., 2d Sess. 11-12, 64-71, 77-92 (1922), plates 49-52 following 187). Ariz. Ex. 45 is reproduced and bound with Calif. Exhibits, vol. 24.

authorized by section 1 of the Boulder Canyon Project Act (Rep. app. 379), began in 1934, and the first significant use of the canal was made in 1940 (Rep. 37). It replaces the Alamo Canal, the former diversion canal for Imperial, which ran partly through Mexico (Rep. 54-55). Construction of the Coachella Canal, which turns out from the All-American Canal, began in 1938, and it was completed in 1947 and 1948 (Rep. 38, 57).

Engineering and surveying work on the Colorado River Aqueduct took place continuously from 1923 to 1933; construction, which began in 1932, was completed in 1940; and water was first delivered by Metropolitan Water District in 1941. (Rep. 39, 65-66.)

Between 1930 and 1934, the Secretary of the Interior, acting for the United States, executed water delivery contracts for the delivery of stored water from Lake Mead with California public agencies (Rep. 28): Palo Verde Irrigation District,⁶ Imperial Irrigation District⁷ (amended by a supplementary contract in 1952),⁸ Coachella Valley County Water District,⁹ Metropolitan Water District,¹ and the City of San Diego² (merged in 1947 with Metropolitan³). Non-Indian users in the Yuma Project (Reservation Division) in California hold individual water right applications executed pursuant to the reclamation laws both before and after enactment of the Project Act,⁴ but there is no water delivery contract for this area which purports to be executed pursuant to the Boulder Canyon Project Act.

⁶Ariz. Ex. 33 (Tr. 249).

⁷Ariz. Ex. 34 (Tr. 249).

⁸Ariz. Ex. 37 (Tr. 250).

⁹Ariz. Ex. 36 (Tr. 250).

¹Ariz. Ex. 39 (Tr. 252), amending Ariz. Ex. 38 (Tr. 251).

²Ariz. Ex. 40 (Tr. 252).

³Ariz. Ex. 42 (Tr. 253).

⁴Exemplary contracts are Calif. Exs. 378-380 (Tr. 8,852).

The water delivery contracts executed with the California public agencies (see notes to preceding paragraph) call for delivery of stored water in accordance with the Seven-Party Agreement⁵ signed in 1931 by all California defendants (except the state) in response to a request from the Secretary of the Interior.⁶ By its terms (the effect of which is tabulated in appendix, p. A3), priorities among its signatories and the Yuma Project (Reservation Division) in California, *inter sese*, are assigned for the consumptive use in California of 5,362,000 acre-feet per annum of Colorado River water. Briefly summarized, the first three priorities, totaling 3,850,000 acre-feet per annum, belong to Palo Verde, Yuma, Imperial, and Coachella; the fourth priority, 550,000 acre-feet per annum, is now held by Metropolitan, as is the fifth priority of 662,000 acre-feet per annum; the sixth priority, 300,000 acre-feet, is shared by Palo Verde, Coachella, and Imperial. This priority schedule from the Seven-Party Agreement is incorporated *in haec verba* in each of the California water storage and delivery contracts (Rep. 28; Rep. app. 425-28).

As of the date to which the evidence related (1955-1957), the California projects were consuming approximately 4,600,000 acre-feet per annum of Colorado River water.⁷ In 1960, the Colorado River Aqueduct of Metro-

⁵Ariz. Ex. 27 (Tr. 242).

⁶Calif. Ex. 1810 (Tr. 12,244).

⁷The table at Rep. 128 shows the "Approximate Consumptive Use of Mainstream Water in California" as 4,483,885 acre-feet per annum as of 1955-1957. The quantity shown for Metropolitan Water District is 481,493 acre-feet in 1956, but this should be increased to 584,000 acre-feet for 1957 (Rep. 128 n.73). California's total consumptive use would thus be 4,586,392 acre-feet per annum as of the date of evidence, rounded to 4,600,000 acre-feet per annum.

politan Water District⁸ diverted about 900,000 acre-feet for consumptive use or about twice its use of four years ago.⁹ In the early months of 1961, and as this brief was printed, the aqueduct was running at full capacity. Under ultimate development, these California projects are capable of putting at least 5,362,000 acre-feet per annum of Colorado River water to beneficial consumptive use, which is the quantity specified in the Seven-Party Agreement.¹⁰ Total investments by the projects, excluding private investments, exceeded \$500,000,000 as of the date of the evidence (appendix, pp. A7, A20-21, A27, A28, and A33-34).

There are in California certain federal establishments for which the United States claims rights to Colorado River waters. These federal claims, which are relatively minor in California, have been sustained by the Special Master.¹¹ The Yuma Indian Reservation, which

⁸The aqueduct is capable of diverting at least 1,212,000 acre-feet per annum from the Colorado River.

⁹The aqueduct diverted 481,493 acre-feet in 1956 (Rep. 128) and 584,000 acre-feet in 1957 (Rep. 128 n.73). See appendix, pp. A35-36, for data on consumption since the close of evidence.

¹⁰Even under the decree proposed by the California defendants, only 4,600,000 acre-feet of Colorado River water is available for consumptive use in California from the dependable or permanent supply. See *infra* p. 21.

¹¹These are for the Chemehuevi Indian Reservation (Rep. 267); Yuma Indian Reservation (Rep. 268-69); portions of the Colorado River Indian Reservation within California, Rep. 271-72 (findings 8-13, 15, 17), Rep. 273 (conclusions 1, 5-7), and Rep. 274-78 (opinion); and portions of the Fort Mohave Indian Reservation within California, Rep. 281 (finding 14). These rights are adjudicated in the recommended decree, Rep. 350-52 (Decree art. II(C)(2)(a), (c), (d), and (e)).

In addition to the Indian claims, the Report also sustains federal claims for the Havasu Lake National Wildlife Refuge, Rep. 298-99, 352 (Decree art. II(C)(2)(g)) and Imperial National Wildlife Refuge, Rep. 299-300, 352-53 (Decree art. II(C)(2)(h)), both of which are partly in California.

is one of these federal establishments in California, is included within the Yuma Project (Reservation Division), California, discussed above. (See Rep. 60-61, 87-88.)

III. EXISTING PROJECTS IN OTHER LOWER BASIN STATES

A. Arizona Projects

Arizona pleaded that on November 24, 1922, the "Arizona irrigated acreage served by water diverted from the main stream of the Colorado River amounted to 73,000 acres with appropriative rights for sufficient water to irrigate said acreage."¹ As of June 25, 1929, Arizona projects consumed less than 250,000 acre-feet per annum of water from the main Colorado River.²

The ultimate beneficial consumptive use requirements of existing Arizona projects diverting from the main Colorado River are approximately 1,200,000 acre-feet

¹Ariz. Reply to Calif. Answer, par. 4, pp. 13-14.

²Nev. Comments on the Draft Report, submitted June 6, 1960, pp. 12, 24, show, with citations to the record and explanation of the calculations, the following consumptive use in 1929 by non-Indian projects in Arizona (in acre-feet per annum):

North and South Gila Valleys	23,900
City of Yuma	200
Yuma Project	164,700
Total	188,800

The record does not show the historic consumptive use (diversions less returns to the stream) for the Colorado River Indian Reservation, the only federal establishment in Arizona which made any significant consumptive use of main stream water by 1929. However, U.S. Ex. 575 (Tr. 14,498) shows a computed diversion requirement of 39,508 acre-feet for 5,683 irrigated acres in 1929 for that reservation, and consumptive use (diversions less returns) would obviously have been less.

per annum.³ (See table 2 *infra*.) The consumptive use by these projects in 1955 was substantially less than their total requirements.⁴

In 1944, the Secretary of the Interior executed a water delivery contract with the State of Arizona⁵ for delivery of certain quantities of stored water in Lake Mead to users within that state as may contract therefor with the Secretary, and as may qualify under the reclamation law or other federal statutes, or to federal lands within Arizona.⁶ The contract also provides, *inter alia*, that "present perfected rights to the beneficial use of waters of the Colorado River system are unimpaired by this contract."⁷

There are also in Arizona certain federal establishments for which the Master has sustained the United States claims for Colorado River water based on fed-

³See Calif. Findings and Conclusions, part IV-D, pp. IV-29 through 43, and parts XIV-A through XIV-F, pp. XIV-3 through 56.

⁴The Master reports that "Approximate Diversions of Main-stream Water in Arizona" in 1955 totaled 1,239,140 acre-feet (Rep. 127). Consumptive use (diversions from the main stream less return flow thereto) is a lesser figure; however, the Master asserts that the Arizona diversions "cannot, on this record, be translated into consumptive use" because no figures are available for return flow from Arizona projects diverting at Imperial Dam (Rep. 126). The Master does report two figures of partial return flow totaling 269,600 acre-feet from Arizona projects (Rep. 126, 127 n.71), so that consumptive use in Arizona of water diverted from the main Colorado River in 1955 was surely less than 1,000,000 acre-feet (1,239,140 minus 269,600).

⁵Ariz. Ex. 32 (Tr. 248), Rep. app. No. 5.

⁶Art. 7(1) (Rep. app. 403).

⁷*Ibid.*

eral reservations of public lands.⁸ The Colorado River Indian Reservation in Arizona is one of the existing projects discussed above.⁹

Arizona projects on the Gila River system take and consume the major portion, about 1,715,000 acre-feet per annum, of the safe annual yield of that system, which is 1,750,000 acre-feet per annum.¹ In addition, Arizona projects require about 82,500 acre-feet per annum from other lower basin tributaries (Little Colorado, Kanab Creek, Virgin, and Bill Williams river systems, and other very minor tributaries).²

B. Nevada Projects

Nevada's use from the main Colorado River by June 25, 1929, was nil.³ Projects authorized or constructed to date will require, under ultimate development, the consumptive use of about 120,500 acre-feet per annum

⁸These are the Cocopah Indian Reservation (Rep. 267-68); Colorado River Indian Reservation, most of which is in Arizona (Rep. 269-74); Fort Mohave Indian Reservation, part of which is in Arizona (Rep. 279-83) (findings 1-13 and 16, and conclusions 1-6); and portions of the Lake Mead National Recreation Area (Rep. 294-95), Havasu Lake National Wildlife Refuge (Rep. 298-99), and Imperial National Wildlife Refuge (Rep. 299-300). These federal rights are adjudicated in the recommended decree, art. II(C)(2)(b) and (d) through (h) (Rep. 350-53).

⁹See Calif. Findings and Conclusions, part XIV-B, pp. XIV-8 through 20.

¹See Calif. Findings and Conclusions, parts V-G and V-H, pp. V-35 through 48; Calif. Findings 4F:101, p. IV-54; 16A:101-02, pp. XVI-3 through 5. Uses of Gila River system water in excess of safe annual yield, made possible by overdrawing ground water basins, are not included in the figures in text.

²See Calif. Finding 4F:102, p. IV-55; parts XIV-H through XIV-L, pp. XIV-77 through 103.

³*E.g.*, Nev. Comments on Draft Report, dated June 6, 1960, pp. 10-13, 15, 24.

of Colorado River water,⁴ but their consumptive use in 1956 was only 24,450 acre-feet.⁵

In 1944, the Secretary of the Interior executed a water delivery contract with the State of Nevada⁶ (amending an earlier contract of 1942⁷) for delivery of certain quantities of water stored in Lake Mead.

There are also in Nevada certain minor federal establishments for which the Master has sustained United States claims for Colorado River water based on the federal reservations of the public lands.⁸

Nevada users also require about 51,000 acre-feet per annum from the Virgin River system, a lower basin tributary.⁹

C. Utah and New Mexico Projects

Existing projects in Utah and New Mexico require about 100,000 acre-feet from lower basin tributary systems.¹⁰ (These two states have no access to the main Colorado River in the lower basin (see plate 11 *infra*).) New Mexico takes a minor portion of the safe annual yield of the Gila River system which is common to that state and Arizona.¹¹

⁴Calif. Findings and Conclusions, part IV-E, pp. IV-43 through 53, and part XV-A, pp. XV-3 through 9.

⁵Rep. 128. See also table 3 *infra*.

⁶Ariz. Ex. 44 (Tr. 254).

⁷Ariz. Ex. 43 (Tr. 253).

⁸These are portions of the Fort Mohave Indian Reservation (Rep. 279-83, particularly finding 15, Rep. 282) and of the Lake Mead National Recreation Area (Rep. 294-95), which are adjudicated in the decree, art. II(C)(2)(e) and (f) (Rep. 351-52).

⁹Calif. Findings and Conclusions, part XV-B, pp. XV-10 through 16.

¹⁰See Calif. Findings and Conclusions, part XVI for New Mexico projects on the Gila and Little Colorado river systems; part XVII for Utah projects on the Virgin River and Kanab Creek systems.

¹¹See Rep. 76, 78-79; Calif. Findings and Conclusions, part XVI-A, pp. XVI-3 through 5. See also *supra* p. 18 note 1.

IV. INTERSTATE APPORTIONMENT PROPOSED BY THE CALIFORNIA DEFENDANTS OF THE DEPENDABLE LOWER BASIN WATER SUPPLY

A. The Evidence on Water Supply

The California evidence, closely corroborated by the Arizona evidence (except for one study by an Arizona witness based on a Compact interpretation supplied by Arizona counsel and later disowned by counsel¹), clearly establishes that the dependable or permanent water supply available for consumptive use from the main Colorado River is approximately 6,000,000 acre-feet per annum.² That dependable supply requires an inflow at Lee Ferry of 8,700,000 acre-feet per annum, together with other usable lower basin tributary inflow, to meet Mexican Treaty deliveries and reservoir and other unavoidable river losses as well as consumptive use.³ The dependable supply of all lower basin tributary systems is approximately 2,000,000 acre-feet per annum.⁴ Thus, the dependable or permanent supply available for

¹See Ariz. Ex. 358 (Tr. 18,097) and Tr. 21,840, discussed *infra* pp. 245-46 note 4.

²Calif. Findings and Conclusions, parts V-A through V-E, pp. V-3 through 33. The California evidence showed a net usable supply available to the lower basin from the main stream of 6,175,000 acre-feet per annum, reduced by a 5% safety factor to 5,850,000 acre-feet per annum (see Calif. Finding 5E:102, table, p. V-31). See also plate 8 *infra*, comparing various elements of water supply studies in evidence.

³Calif. Findings and Conclusions, parts V-D and V-E, pp. V-17 through 33; plate 7 *infra*, a schematic diagram of the California water supply study.

⁴Calif. Findings and Conclusions, parts V-G and V-H, pp. V-35 through 48, showing the safe annual yield from the Gila River system in Arizona and New Mexico of 1,750,000 acre-feet per annum; part V-I, p. V-49 (see also Calif. Finding 4F:102, p. IV-55), re other lower basin tributary systems (Little Colorado, Virgin, Kanab Creek, and Bill Williams river systems) showing a safe annual yield of 200,000 acre-feet per annum.

allocation for consumptive use in this suit is somewhat less than 8,000,000 acre-feet per annum from the entire lower basin, including both main stream and tributaries.⁵

B. Interstate Apportionment Proposed by California

The decision proposed by California would provide California three quarters of a million acre-feet less from the permanent supply of the main Colorado River than the quantity of water required by California's constructed projects. It would permit from that supply full future development of all existing Nevada projects and of all existing Arizona main stream projects except for 80,000 acre-feet per year.

Under the decision proposed by the California defendants, California claimed approximately 4,600,000 acre-feet per annum from the dependable or permanent supply of the main Colorado River.⁶ Under the Seven-Party Agreement⁷ (and ignoring small additional and senior federal claims for Indian reservations in California sustained by the Master),⁸ that quantity would provide 3,850,000 acre-feet per annum to satisfy the first three priorities of the four California agricultural agencies (Palo Verde, Yuma, Imperial, and Coachella), or about 144,000 acre-feet less than those districts' combined consumptive use as of the date of the evidence

⁵The 8,000,000 acre-feet is a rounded quantity. The dependable main stream supply of 5,850,000 acre-feet per annum proposed in our findings is rounded up to 6,000,000 acre-feet per annum, and the dependable tributary supply of 1,950,000 acre-feet per annum is rounded up to 2,000,000 acre-feet.

⁶Calif. Findings and Conclusions, part XII, particularly table 2, p. XII-25; Calif. proposed decree (bound in vol. 1, Calif. Findings and Conclusions), table 1, p. Decree-10, at col. (7).

⁷Ariz. Ex. 27 (Tr. 242), discussed *supra* p. 14.

⁸*Supra* pp. 15-16.

(1955-1957).⁹ That quantity would supply 750,000 acre-feet per annum under the fourth and fifth priorities for Metropolitan Water District,¹⁰ or only 166,000 acre-feet more than Metropolitan's 1957 consumptive use,¹ and 462,000 acre-feet less than its 1,212,000 acre-feet of constructed capacity. California would be dependent, for the balance, on water temporarily available.

Under our proposed decree, Arizona would receive 1,129,500 acre-feet per annum from the dependable main stream supply, only 80,000 acre-feet less than the full ultimate requirements of her existing main stream projects.² Nevada would receive the full requirements of her existing main stream projects, 120,500 acre-feet, from the dependable main stream supply.³

In addition, Arizona would receive from the dependable or permanent supply of the Gila River system 1,715,000 acre-feet per annum, plus her use by existing projects of 82,500 acre-feet per annum from the dependable supply of other lower basin tributary systems.⁴ Thus, Arizona would receive 2,927,000 acre-feet per annum from the dependable supply of the Colo-

⁹Rep. 128 shows that consumptive use in Coachella, Imperial, Palo Verde, and Yuma as of 1955-1957 was 3,994,392 acre-feet per annum, which is 144,392 acre-feet more than 3,850,000 acre-feet.

¹⁰4,600,000 acre-feet less 3,850,000 acre-feet for the first three priorities ahead of Metropolitan.

¹Metropolitan's 1957 consumptive use was 584,000 acre-feet (Rep. 128 n.73). The district's present use is already more than 750,000 acre-feet per annum (appendix, pp. A35-36).

²Calif. Findings and Conclusions, part XII, particularly table 1, p. XII-24; Calif. proposed decree, table 1, p. Decree-10, cols. (7) and (8); *supra* pp. 16-17.

³Calif. Findings and Conclusions, part XII, particularly table 3, p. XII-26; Calif. proposed decree, table 1, p. Decree-10, col. (7); *supra* pp. 18-19.

⁴Calif. Findings and Conclusions, part XII, particularly table 1, p. XII-24; Calif. proposed decree, table 3, p. Decree-15; *supra* p. 18.

rado River system (main stream and tributaries) in the lower basin. Nevada would also receive her use by existing projects of 51,000 acre-feet per annum from the Virgin River system.⁵ Thus, Nevada would receive 171,500 acre-feet per annum from the Colorado River system in the lower basin.

New Mexico and Utah would receive the full requirements of their existing projects from the dependable supply of the lower basin tributary systems in each state, 45,500 acre-feet per annum to New Mexico and 56,000 acre-feet per annum to Utah.⁶

C. The Master's Determinations on Water Supply

The Master asserts that the future supply of main stream water in the lower basin is irrelevant to the legal issues in this case (Rep. 99-102) and that the dependable or permanent supply of the main Colorado River is undetermined and undeterminable from the record (Rep. 102-13). (The Master does not mention the permanent supply of lower basin tributary systems.) These water supply questions, which are bound up closely with the resolution of the issues on the merits, are treated in the Argument, Part Five *infra* pp. 232-78.

D. California Motions re Water Supply

In our comments on the draft report, submitted to the Special Master on June 10, 1960, California moved,

⁵Calif. Findings and Conclusions, part XII, particularly table 3, p. XII-26; Calif. proposed decree, table 5, p. Decree-17; *supra* p. 19.

⁶Calif. Findings and Conclusions, part XII, particularly table 4, p. XII-27, showing New Mexico's allocations from the Gila and Little Colorado river systems, and table 5, p. XII-28, showing Utah's allocations from the Virgin River and Kanab Creek systems; Calif. proposed decree, table 6, p. Decree-18 (New Mexico) and table 7, p. Decree-19 (Utah); *supra* p. 19.

inter alia, that the Master appoint or recommend that the Court appoint a disinterested expert or experts skilled in hydrology as the Court's own witness to testify (1) whether the dependable or permanent water supply available for consumptive use each year from the main Colorado River in the lower basin is determinable within reasonable and useful limits of accuracy and (2), if so, what that supply is.⁷ The Master denied this motion.⁸

On August 31, 1960, the California defendants moved that the Special Master reopen the trial for the taking of evidence relating to depletion of the Colorado River at Lee Ferry by existing and anticipated projects in the upper basin. The motion was occasioned by the revelation during oral argument in New York City on August 19, 1960, that the Master believes that unused upper basin water (*i.e.*, water legally and physically available for use in the upper basin) will be available for use in the lower basin into the "foreseeable" and "unforeseeable" future.⁹ This assumption of the Master was not disclosed by the draft report, although it is now discussed in the Master's final Report (Rep. 111-15).¹⁰ The Master denied the motion (Rep. 112 n.41).

⁷Calif. Comments, Suggestions, and Motions re Draft Report, submitted June 10, 1960, pp. 62-63, 68-90.

⁸Tr. 22,599-600.

⁹Calif. Motion To Reopen the Trial for the Taking of Evidence re Depletion of the Colorado River at Lee Ferry by the Upper Basin, submitted August 31, 1960, pp. 5-20.

¹⁰The errors in the Master's discussion of upper basin depletions are treated in the Argument, Part Five *infra* pp. 246-53, 257-61.

V. DECISION RECOMMENDED IN THE MASTER'S REPORT

The Master's Report and proposed decree recommend the following decision for this Court:

A. The "Mainstream" and "Tributary" Waters

The "mainstream" is defined as Lake Mead and the main Colorado River below Lake Mead within the United States, including the inflow from the Bill Williams River, and miscellaneous lesser tributary inflow (Rep. 183-85, Decree art. I(B) (Rep. 345)). The Bill Williams River enters the main Colorado River approximately 150 miles below Hoover Dam (see Rep. 33-34; map of Colorado River basin, plate 11 *infra*).

The "tributary" waters are all other lower basin waters; *i.e.*, the waters in all tributary systems in the lower basin as well as in the main Colorado River itself from Lee Ferry to Lake Mead. (Decree art. I(F) (Rep. 345-46).)

B. The "Mainstream" Allocation

1. *Basis of Water Rights*

The Report concludes that the Boulder Canyon Project Act nullified principles of priority and equitable apportionment which would otherwise control the interstate allocation of "mainstream" waters. Instead, the Project Act authorizes and directs the Secretary to allocate the "mainstream" waters among Arizona, California, and Nevada, the only three states having physical access thereto, by means of water delivery contracts authorized by section 5 of the act. This conclusion is based on the Master's construction of sections 1, 5, and 8(b) of the Project Act, and on legislative history. (Rep. 151-64.)

2. *The Limitation on California*

The Report construes the limitation on California's

consumptive use,¹ set forth in the first paragraph of section 4(a) of the Project Act and the reciprocal California Limitation Act (Rep. 164-65), as follows:

(1) The limitation on California's consumptive use to 4.4 million acre-feet of the "waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact" makes an "inappropriate" reference to the Compact. It was intended by Congress to refer to 4.4 million acre-feet of the first 7.5 million acre-feet of consumptive use from the "mainstream" alone, although Article III(a) of the Compact relates to the first 7.5 million acre-feet of consumptive use from all Colorado River system waters (main Colorado River and all tributaries) in the lower basin. (Rep. 173-94; see also Rep. 142-44.)²

¹The Master concludes that the limitation on California relates to consumptive use of "mainstream" water measured by the quantity of "mainstream" water diverted at points of diversion in California less return flow to the "mainstream," measured or estimated by appropriate engineering methods, available for use in the United States or in satisfaction of the Mexican Treaty obligation. (Rep. 185-94.)

²The Master's proposed construction of the limitation on California was first revealed in his Draft Report of May 5, 1960. In our Comments on the Draft Report (pp. 90-93), we moved that the Master reopen the hearings to take evidence on whether the limitation's reference to "waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact" is controlled by whatever meaning is properly to be given to Article III(a) of the Colorado River Compact. The Master by letter directed the California defendants to submit at the time of oral argument in New York City an offer of proof in support of our motion which would serve as the basis for determining whether the hearing should be reopened (Tr. 22,600). Our offer of proof and brief in support thereof, dated August 17, 1960, and the California exhibits which constitute the evidence offered (now bound as vol. 25, Calif. Exhibits) were submitted to the Special Master and all parties on August 17, 1960. The Report concludes that "it would not be provident to reopen the hearings for the purpose of receiving [the exhibits submitted in California's offer of proof] as well as any evidence which might then be tendered by the other parties in contradiction." (Rep. 253; see Rep. 248-53.)

(2) The limitation on California's consumptive use to one half of any "excess or surplus waters unapportioned by said compact" does not refer to the Compact. It refers to one half of the consumptive use of "mainstream" waters over and above 7.5 million acre-feet although the Compact deals with all Colorado River system waters in the lower basin. (Rep. 194-200.)

The Report asserts that the limitation set forth in the first paragraph of section 4(a) cannot be read literally because Article III(a) in the Compact which is described as a "limitation on appropriative rights" cannot be identified with Article III(a) in the limitation which is described as "a source of supply." (Rep. 149.) The Report also asserts that the limitation cannot be read literally to refer to the Compact also because of provisions of a tri-state compact (never ratified) set forth in the second paragraph of section 4(a) which would render such a construction impractical and unreasonable (Rep. 170-72). Legislative history is also relied upon (Rep. 174-80). The Master also holds that if the limitation is read literally to refer to the Compact, the 1 million acre-foot increase in use permitted to the lower basin by Article III(b) of the Compact is not "excess or surplus waters unapportioned by said compact," and California could not acquire rights thereto (Rep. 150, 180 n.40, 194-96).

The Report reasons that Congress intended the limitation to refer to "mainstream" waters because these were the waters to be impounded and controlled by the United States with the dam and reservoir authorized by the Project Act (Rep. 173-74, 183). The "mainstream" waters include the inflow from the Bill Williams River (150 miles below Hoover Dam) because of

administrative difficulties in segregating its inflow from the other "mainstream" waters released from Lake Mead and because Congress treated that inflow as *de minimis* (Rep. 184-85).

3. *The "Contractual Allocation Scheme"*

The Report concludes that the Project Act vests in the Secretary of the Interior the discretion to determine the quantity of "mainstream" waters which he will make available each year for consumptive use in Arizona, California, and Nevada. This discretion is controlled only by the obligation to release water pursuant to the Mexican Treaty obligation, and to follow the priorities for the use of Hoover Dam and Lake Mead specified in section 6 of the Project Act (Rep. 221-22, 224, 305). The Master also concludes that "in view of the control of the mainstream vested in the Secretary of the Interior, he will in effect administer the decree" (Rep. 314).

The Report concludes that the water delivery contracts executed by the Secretary of the Interior with California public agencies (between 1930-1934), with Nevada (in 1942 and 1944), and with Arizona (in 1944) establish a "contractual allocation scheme (or system)" (Rep. 221, 232) which "forever allocates" all "mainstream" waters available for consumptive use³ in these three states in the following manner (Rep. 221-28, 232-37, 305-14, Decree art. II(B) (Rep. 347-50)):

If there is 7,500,000 acre-feet of "mainstream" water available for consumptive use each year:

³"[D]iversions from the stream less such return flow thereto as is available for consumptive use in the United States or in satisfaction of the Mexican treaty obligation." Decree art. I(A) (Rep. 345).

To Arizona	2,800,000 acre-feet
To California	4,400,000 acre-feet
To Nevada	300,000 acre-feet

If there is less than 7,500,000 acre-feet of "mainstream" water available for consumptive use each year, the shortage is shared ratably by each state in proportion to its allocation:

By Arizona	28/75 (37 $\frac{1}{3}$ %)
By California	44/75 (58 $\frac{2}{3}$ %)
By Nevada	3/75 (4%)

However, section 6 of the Project Act requires that if the "mainstream" waters available for consumptive use in any year are insufficient to supply "present perfected rights" in one or two states, the allocations of the other states or state must be cut back proportionately to supply those rights. If the "mainstream" waters are insufficient to supply all "present perfected rights" in all three states, shortages are borne in inverse order of priority of such rights across state lines. "Present perfected rights" are defined as the quantity of water put to consumptive use by June 25, 1929, or reserved by the United States for federal reservations made prior to that date whether put to use by that date or not.

If there is excess "mainstream" water available for consumptive use in any year over and above the first 7,500,000 acre-feet:

To Arizona 50% (subject to a reduction to 46% in favor of Nevada if the Secretary should so contract with Nevada)

To California 50%

The foregoing apportionments are subjected by the Report to the following qualifications: Under the Proj-

ect Act, intrastate priorities control the distribution of a state's allocation within a state, but those priorities are not determined in this suit.⁴ No water may be delivered to a user or for a use in violation of state law, or to any person without a water delivery contract, with certain exceptions for Indian reservations and other federal establishments operated by the Secretary of the Interior. The Secretary is permitted to release water apportioned but unused by one state for use in another state or states. (Rep. 312, 314, Decree arts. II(B)(7)-(8) and II(C)(1) (Rep. 349-50).) Neither the Report nor the recommended decree gives any instructions to the Secretary as to how water unused by one of the "mainstream" states shall be allocated by the Secretary if it is insufficient to satisfy competing demands of the two other "mainstream" states.

This "contractual allocation scheme" is "deduced" by the Master from the water delivery contracts construed with the gloss that the Secretary intended thereby to effectuate substantially, although not precisely, the allocation set forth in the second paragraph of section 4(a) of the Project Act (authorizing an interstate compact which no state ratified), in conjunction with the limitation specified in the first paragraph of that section (Rep. 222-25).

4. Federal Reservations

The Report adjudicates in the United States rights to "mainstream" waters, both as to quantities and priorities, based on federal reservations of public lands for

⁴Although the Report does determine priority dates of federal rights based on federal reservations, their relative priorities as against other users within a state are not determined. (Rep. 218-19.)

Indian reservations and for other federal purposes⁵ (Rep. 254-304, Decree art. II(C)(2) (Rep. 350-53)).

The Report also concludes that the rights of the United States to the full quantities of "mainstream" waters reserved by the United States by June 25, 1929, for Indian reservations and for other federal establishments constitute "present perfected rights," regardless of any history of beneficial use or nonuse (Rep. 309-11), entitled to the protection which the Report accords to such rights (*supra* p. 29). The federal rights and uses are chargeable to those states in which the use is made, and the federal rights within each state are limited by the allocation to each state (Rep. 247-48, 300-02, 312-13, proviso to Decree art. II(C) (Rep. 353)).⁶

C. The "Tributary" Waters

1. "Tributary" Users *Inter Sese*

The Report determines that principles of equitable ap-

⁵Lake Mead National Recreation Area (Rep. 292-95) and Havasu and Imperial National Wildlife refuges (Rep. 296-300).

⁶California excepted to the Master's determinations of (1) the quantities of water reserved by the United States for Indian reservations (Rep. 254-87) and for other federal lands and purposes (Rep. 291-300), (2) the priorities accorded to such federal reservations, and (3) the bases upon which the Report predicates water rights for such federal reservations. (Calif. Exception IV-5, p. 25.) Although we disagree in principle with these determinations for the reasons summarized in our comments on the Master's draft report, pp. 45-53, we do not brief the point herein. First, the quantities of Indian water in dispute in California are relatively small. Second, the Master has correctly decided, as noted above, that federal uses in Arizona and Nevada are chargeable to those states out of water from which California users are excluded by the California Limitation Act, and the Master asserts that "all of the parties seem to agree to this accounting." (Rep. 247.) No party appears to have excepted to this conclusion. However, if the decision that federal uses are so chargeable should be attacked by any party in briefs, we reserve our challenge to the determinations which sustain the federal claims.

portionment continue to control the interstate allocation of "tributary" waters among users of those waters *inter sese* (Rep. 325). However, there is presently no justiciable controversy over the waters of any tributary system except the Gila River system waters which are used in New Mexico and Arizona (Rep. 322-25). This latter controversy among these two states and the United States is adjudicated (Rep. 325-43, Decree art. IV (Rep. 354-58)) under equitable apportionment principles (Rep. 325-28, 331) in conjunction with a minor stipulation between those two states (Rep. 329-30). No other "tributary" rights are adjudicated.

2. *"Tributary" Users Vis-a-vis "Mainstream" Users*

The Report determines that principles of equitable apportionment also continue to control interstate controversies between "tributary" users and "mainstream" users (Rep. 316-18; see also Rep. 247), but any waters reaching the "mainstream" are allocated among the "mainstream" users according to the formula earlier propounded (Rep. 317). It further determines that there is presently no justiciable controversy between "tributary" users and "mainstream" users, and, accordingly, no such rights are adjudicated (Rep. 318-21).

VI. EXCEPTIONS OF THE CALIFORNIA DEFENDANTS

The California defendants have excepted to the Report of the Special Master in the respects specified in our exceptions filed with this Court on February 27, 1961. This consolidated opening brief of all eight California defendants is filed in support of those exceptions.

SUMMARY OF THE ARGUMENT

Preliminary Statement

The Master proposes a resolution of this suit which is only obliquely related to the issues pleaded and litigated. The Master concludes that the issues which were brought by the parties to this Court, referred to the Master, and litigated during the course of three years of trial, are irrelevant to the disposition of the case. He concludes that the question which precipitated the suit is undeterminable: Is there a *dependable* water supply for the proposed Central Arizona Project?

The Master proposes a decree which, if adopted, will affect the construction of the Central Arizona Project in no perceivable way if Arizona and Congress decide to make diversions for that project from any of the planned alternative diversion points on the main Colorado River above Lake Mead (about 275 miles of the main stream of the Colorado River in the lower basin), newly defined by the Master as a "tributary," and excluded from this adjudication. If the Central Arizona Project should make diversions above Lake Mead (the 1960 Annual Report of the Arizona Interstate Stream Commission states that surveys for such diversions are now underway)¹ the Master's decision proposes that the principal protagonists begin anew in this Court. On the next trip, California as a "mainstream" user sues Arizona as a "tributary" user under the principles of priority of appropriation and equitable apportionment which the Report preserves for that future suit, but which are otherwise abolished by the Master in the "mainstream," defined by the Master as the Colorado River from Lake Mead to Mexico. This unattractive

¹See p. 125 *infra*.

prospect results from the Master's divorcing the Project Act from the Colorado River Compact.

Arizona brought the present suit to quiet an asserted title to 3,800,000 acre-feet of consumptive use of the waters of the Colorado River system (*i.e.*, main stream and tributaries) in the lower basin. Arizona asserted, and all parties recognized, that Arizona's claim (alleged to include 1,700,000 acre-feet Arizona was not using), and the claims of California for existing and long-established projects, were mutually exclusive. California had built three projects at a cost in excess of a half billion dollars of public investment.

That controversy exists solely by reason of the Colorado River Compact. Were it not for the apportionment in perpetuity which the Compact makes to the upper basin of the consumptive use of 7,500,000 acre-feet per annum, there would be an adequate supply of unappropriated water available for Arizona's proposed Central Arizona Project without impinging on any rights or requirements of the other lower basin states.

Issues joined in the pleadings and the evidence taken during three years of trial related in large part to the pleaded and long-standing controversy over the meaning of the Compact as "enthroned" by the Boulder Canyon Project Act.² Major issues litigated were (1) the meaning and method of measurement of "beneficial consumptive use" under the Colorado River Compact as applied to lower basin tributaries; (2) Arizona's asserted identification of her uses on the Gila River sys-

²The Senate committee which reported the Boulder Canyon Project bill described it as "enthroning the Colorado River Compact." S. REP. NO. 592, to accompany S. 728 (fourth Swing-Johnson bill), 70th Cong., 1st Sess., pt. 1, at 16 (1928). All of part 1 of the above report is in evidence as Calif. Ex. 203 (Tr. 7,715).

tem with the 1,000,000 acre-feet specified for the lower basin by Article III(b) of the Compact. Their significance lay in the fact that the Project Act had incorporated the Colorado River Compact; to what extent, therefore, must Arizona account for her uses on the tributaries against the 3,800,000 acre-feet which she sought? Her claim was based (1) on provisions of that act which had exacted from California a limitation on California's uses (duly enacted by the California Legislature), in the event that Arizona should fail to ratify the Compact, and (2) on a contract with the Secretary of the Interior.

The Master has resolved most of the pleaded and litigated issues relating to the Compact in accordance with California's contentions. Arizona's uses on the tributaries are encompassed by the Compact, and measured as California contended. He holds, however, that the Compact is not relevant to this controversy (Rep. 138): that the explicit incorporation of the Compact into the limitation on California must be excised: that the Compact includes the tributaries in the apportionment it makes to the lower basin, but the California Limitation Act and the Project Act exclude them (Rep. 173): that the Compact's apportionments in perpetuity to each basin are ceilings on appropriations (Rep. 140, 149): that there is nothing to show that the upper basin users will ever appropriate and use anything approaching the quantity of water within that ceiling (Rep. 111). He rejects California's offer to prove that the upper basin, by about the year 1990, will reach or approach the limits of its use physically possible consistent with the Compact (Rep. 112 n.41).

Upon the Master's reasoning, the Arizona and California claims are not mutually exclusive: "Existing California uses are in no danger of curtailment unless and until many vast new projects, some of which are not even contemplated at this time, are approved by Congress and constructed." (Rep. 115.) If there were sufficient water available upon application of the Master's formula to supply California's existing uses, there would necessarily be more water available to Arizona than Arizona sought in her Complaint.

The Master's decision generates two great unresolved paradoxes:

(1) It is neither possible nor necessary to determine the dependable water supply, if the Master's premises with respect to the Compact are correct. The upper basin's apportionment, except to the undetermined extent of existing upper basin appropriations, is no longer treated as an existing claim against the lower basin; the claims therefore do not exceed the supply; on these premises the controversy is not justiciable. But he concludes that it is justiciable. Although this is a jurisdictional issue, we postpone its treatment to Part Five of the Argument, since the relationship of the Compact (which the Master holds irrelevant) to the Project Act is at the heart of every substantive issue earlier considered.

(2) In 1928, the Arizona delegation in Congress unanimously, strenuously, and emphatically resisted the Boulder Canyon Project Act, and Arizona continued to do so in three suits in this Court, in Congress, and in every public forum available. In 1960, the Master discovered that, contrary to every contention earlier

made, the Project Act had in fact allocated to Arizona the lion's share of the stored water made available by the Boulder Canyon Project. This paradox is revealed only when the dependable water supply is determined. Absent such a determination, it is impossible to test the result accomplished by the Project Act against its legislative objectives.

I. INTRODUCTION: THE BASIS OF WATER RIGHTS

The source of California's water rights is the law of equitable apportionment and priority of appropriation confirmed, not abrogated, by the Project Act. Appropriation is the law of the arid West created by imperative necessity. That law is more firmly established in the Colorado River basin than anywhere else. This is not by accident, but because this is the area where water is most precious. See plate 1. California water users have initiated appropriations by licenses and permits to appropriate and by federal water contracts; they have diligently prosecuted construction of works to put those waters to beneficial use; and today great projects in California are beneficially using the water. Under the principles of equitable apportionment and priority of appropriation, California's projects have prior rights to the use of all water necessary to sustain them,³ whether these rights are considered as derived from state or federal law, because federal statutes and state law embody identical principles.

³In Part Two we discuss the quantitative limitation imposed upon these rights by the statutory compact between the United States and California evidenced by the Boulder Canyon Project Act and the reciprocal California Limitation Act. This limitation did not destroy the priorities of these rights, but limited their magnitude to stated quantities.

There is no disagreement about the source and characteristics of water rights in the lower basin prior to June 25, 1929, the date upon which, by presidential proclamation, the Boulder Canyon Project Act, the Colorado River Compact (ratified by six states), and the California Limitation Act became simultaneously effective: The controlling law was equitable apportionment and priority of appropriation. Priority of appropriation, the principal ingredient of equitable apportionment, contains three fundamental elements: (1) Water rights are founded upon beneficial use of water and are lost by nonuse; (2) the water user prior in time is prior in right (the priority concept); (3) the water user who initiates an appropriative right and who diligently constructs a project to put the water to beneficial use is given a priority from the date of initiation of his project. This relation-back principle protects the diligent appropriator from losing his water supply before his project is completed to a water user whose project is later initiated but earlier completed. Equitable apportionment, applied consistently by this Court in interstate suits between states which internally apply principles of priority of appropriation, modifies priorities to the extent necessary to take equitable considerations into account; the primary respect in which priority of appropriation is thus modified is the protection of existing economies built upon interstate priorities which are junior. This Court has never countenanced the impairment or destruction of an existing economy, even though founded on junior interstate priorities, for the benefit of a project not yet built. (*Wyoming v. Colorado*, 259 U.S. 419 (1922); *Nebraska v. Wyoming*, 325 U.S. 589 (1945).) *A fortiori*, the Court has pro-

tected economies which are built on senior rights. Such is the California economy which is sustained by the Colorado River Aqueduct of The Metropolitan Water District of Southern California. This project would be the primary victim of the Special Master's recommended decree. (See pp. 260-61, 266-70, 272-76 *infra*.)

The Special Master concludes that the Boulder Canyon Project Act, by implication, destroyed the principles of priority of appropriation and equitable apportionment in the "mainstream" (the truncated main Colorado River as defined by the Report) and all water rights founded upon that law (excepting only certain narrowly defined "present perfected rights" existing in 1929), although (a) those principles survive and control water rights in every part of the Colorado River system in the lower basin except the "mainstream" and although (b) "mainstream" appropriative rights survive vestigially to permit senior "mainstream" users to vindicate their rights against upstream junior "tributary" users (including, as a "tributary," the main Colorado River above Lake Mead). (Rep. 316-18, 325.)

By thus abrogating on the "mainstream" the water law principles which have been settled in the West for a hundred years, and all interstate water rights depending upon those principles, the Master proposes, in 1961, to remit all existing projects and all future projects to a pro rata share of a water supply left undetermined and, according to the Master, undeterminable.

II. CONSTRUCTION OF THE LIMITATION ON CALIFORNIA'S RIGHTS

Our disagreement with the Special Master begins with the event which took place on June 25, 1929, when

the President's proclamation made simultaneously effective (1) the Boulder Canyon Project Act, (2) the California Limitation Act, and (3) the Colorado River Compact. There is agreement that prior to that date all rights of all states in the lower basin were based on the law of equitable apportionment and priority of appropriation. There is also agreement that the Boulder Canyon Project Act, section 4(a), first paragraph, together with the California Limitation Act placed limits on those rights in California. We sharply disagree with the interpretation the Special Master has placed upon that statutory limitation. We also sharply disagree that our rights within that quantitative limitation were at any time shorn of priority by the Project Act, the Limitation Act, or the Secretary's water delivery contracts.

In the California Limitation Act, California agreed to limit her uses of Colorado River waters in consideration of the passage of the Project Act, in response to Congress' specification of the terms of the agreement tendered in the first paragraph of section 4(a) of the Boulder Canyon Project Act. The specified limitation is that California should agree that her aggregate annual consumptive uses of Colorado River waters, including "all water necessary for the supply of any rights which may now exist," shall not exceed 4.4 million acre-feet of (1) the "waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact," plus (2) not more than one half of any "excess or surplus waters unapportioned by said compact." The California Limitation Act, accepting that agreement, repeats the specified words virtually *in haec verba*.

Article III(a) of the Colorado River Compact apportions, from both the main stream and the tributaries of the Colorado River system, 7,500,000⁴ acre-feet of beneficial consumptive use in perpetuity to each basin. The phrase "excess or surplus waters unapportioned" does not appear in the Compact, but Article III(a) of the Compact is the only Compact provision which in terms purports to apportion water between the basins. The issue has long been whether the 1,000,000 acre-feet of increase in beneficial uses permitted the lower basin in Article III(b) can be construed as an apportionment within the meaning of the limitation's phrase, "excess or surplus waters unapportioned." California has insisted that the waters specified in Article III(b) of the Compact are "excess or surplus waters unapportioned" and Arizona has insisted that they are "apportioned." This phrase clearly refers to the Compact although it is not clear which Compact classification is referenced. (See *infra* pp. 72-73, 107 note 9.)

The Master rewrites the words of the limitation agreement. He says that the words do not refer to the Colorado River Compact (which is irrelevant), nor to any of its provisions, nor to the main stream and the tributaries in the lower basin (Rep. 173):

"Thus I hold that Section 4(a) of the Project Act and the California Limitation Act refer only to the water stored in Lake Mead and flowing in the mainstream below Hoover Dam,⁴ despite the fact that Article III(a) of the Compact deals with

⁴(Footnote ours.) Because of loss to nature's toll and the Mexican Treaty, 7,500,000 acre-feet of consumptive use from the truncated "mainstream" requires a flow of about 10,000,000 acre-feet to the lower basin at Lee Ferry. The California projection of net losses, including Mexican treaty requirements, below Lee Ferry is about 2.5 million acre-feet per annum. See plate 7 *infra*.

the Colorado River System, which is defined in Article II(a) as including the entire mainstream and the tributaries."

The Master holds that the words in the limitation are "shorthand" meaning "7,500,000 acre-feet per annum" (Rep. 173), a figure which does not appear in the limitation agreement, but which the Master holds must be derived from some source other than the Colorado River Compact. He regards as irrelevant the intention and the understanding of the California Legislature in agreeing to the limitation. But if the intention and understanding of the California Legislature were relevant, California must be conclusively presumed to have accepted the limitation interpreted as the Master now interprets it, although he concedes that this meaning contradicts the literal meaning of the offer to California.

The Master's proposal, he admits, is a patentable novelty.⁵ It is entirely unsupported in the language of the statute, in the legislative history upon which the Master relies, and in 30 years of judicial, administrative, and practical construction of those words. It occurred to no one until after the trial in Arizona's fourth lawsuit over these documents had closed. The reference to the Colorado River Compact in the limitation was deliberate, rational, and purposeful. The limitation was insisted upon by the upper basin states to protect their apportionment under the Colorado River Compact and required by section 4(a) of the Project Act in the

⁵Referring to this construction, the Master conceded: "If we were issuing patents on it, I think we should have to claim novelty." (Tr. 22,762.) Novelty is a rewarded virtue in patent law; less can be said for it in construing a statute upon which whole economies have come to depend.

event, and only in the event, that Arizona did not ratify the Compact. The limitation, by restricting California's appropriative rights in the lower basin quantitatively, left a margin for exploitation by Arizona, thereby reducing the possibility that Arizona, unrestricted by the Colorado River Compact, would invade the upper basin's apportionment. The Compact purpose, by which Congress required a limitation only in consequence of Arizona's failure to ratify the Colorado River Compact, is defeated unless it is recognized that the law of the river is a seamless web: The words in Article III(a) of the Compact must have only one meaning, whether read in the Compact or read in the Project Act by specific incorporation. The quantitative difference between the two meanings which the Master discovers is 2 million acre-feet per annum, the magnitude of the lower basin supply which is consumed on the tributaries.

The Master's patentable novelty has these results:

(1) It permits the Master to resolve the major issues in a 30-year controversy related to the Compact in California's favor, and in accord with the Compact's express definitions, but to dismiss the Compact as irrelevant to anything to be here decided.

(2) It creates—if the upper basin's Compact apportionment is to be given any effect at all beyond the upper basin's present appropriations—a disparity between lower basin claims and supply far more severe than the worst drought which can be imagined. California's 4,400,000 acre-feet *and* the 3,100,000 acre-feet from which California is excluded must be satisfied, if at all, from the supply available from a newly created "mainstream" alone, and not—as the Compact would

dictate—from the Colorado and its tributaries in the lower basin. The utter impossibility of finding a permanent supply in the main stream adequate to sustain 7.5 million acre-feet of claims of the three states, undiminished by their uses on the tributaries, creates a shortage of some 2 million acre-feet, not by diminishing the main stream supply physically, as a drought would do, but by inflating the claims against that supply.

(3) It creates an entirely new river (the “main-stream”), in which water rights are on a basis of “sovereign parity”—a concept that states have equal priorities in unequal quantities of water—entirely different from water rights in the rest of the Colorado River system, except that equitable apportionment and priority are preserved as the basis and source of every “main-stream” right against the users on all of the tributaries which feed water to that river. How the two systems of rights can conceivably be adjudicated or administered together without total confusion is left unexplained, and we think no explanation is possible. The Court will be left with that problem as soon as a Central Arizona Project diversion from the Master’s newly christened tributary above Lake Mead is again presented for federal authorization, or for construction as a nonfederal project. (See pp. 7 *supra* and 124-25 *infra*.)

The Master rewriting the limitation rests on inferences from the Project Act which no one discovered prior to the Master’s draft report. It rests upon the Master’s selection of legislative history, but the Master fails to disclose the two controlling facts:

(1) No member of Congress, even by remote inference, suggested that the Project Act created a “main-

stream" from Lake Mead to Mexico, with a separate basis for interstate water rights.

(2) Agreement has been universal that the Project Act is controlled by the Colorado River Compact in the unlikely event that any inconsistencies between the Project Act and the Compact might be discovered.

III. DESTRUCTION OF PRIORITIES BY A CONTRACTUAL ALLOCATION SCHEME

The shortage—or more accurately the disparity between the main stream supply and the claims against it which have been inflated by exempting the uses on the tributaries from the limitation accounting—is distributed by resort to a "contractual allocation scheme." This is deduced from the contracts which the Secretary has made for storage and delivery of water. The Master constructs a proration formula, undiscovered and undiscoverable from the Secretary's regulations or from any of the Secretary's contracts. California is to receive not 4,400,000 acre-feet, but $44/75$ of an undetermined and undeterminable quantity. The numerator the Master finds in the one figure which appears in the limitation. The denominator is 7,500,000 acre-feet, but not found in the limitation nor (according to the Master) can it be taken from the Compact. It is derived from his interpretation of a tri-state compact which the Project Act authorized the states of Arizona, California, and Nevada to make, but which none ratified. Although the Master holds (correctly) that Congress neither imposed this apportionment on the states nor directed the Secretary to follow it, the Master concludes that the Secretary's contracts substantially effectuate that nuga-

tory tri-state compact. He strikes down as invalid, however, the Secretary's provisions in the Arizona and Nevada contracts which were placed there to make the accounting of these contracts conform to the Compact and limitation accounting; the Master's argument does not permit him to concede that the Colorado River Compact and the limitation accounting are compatible. The result he reaches, derived from this rejected tri-state compact, is even more unfavorable to California than that tri-state agreement would have been. (See pp. 224-25 *infra*.)

If the Master is wrong in rewriting the limitation to delete the incorporation of the Colorado River Compact, he cannot possibly find his "44/75" formula.

The converse is not necessarily true. Even if the Master could divorce the Compact from the limitation and substitute the newly invented "mainstream" for the Colorado River system, it does not follow, except by the discovery of "sovereign parity," that the shortage thus created ought to be prorated at all. We say that, subject to the quantitative limitation on California, shortages should be borne by application of the doctrine of equitable apportionment, including the principles of priority and protection of existing uses; section 8 of the Reclamation Act adopts those principles. (See pp. 147-52 *infra*.)

To reach the Master's proration result the Court must overrule its holding in *Arizona v. California*, 283 U.S. 423, 464 (1931) (expressly identified as such in the Court's opinion by Mr. Justice Brandeis), that the law of prior appropriation survived the enactment of the Project Act. The Court must override the express language of section 18 and section 14 of the Project

Act, and overrule *pro tanto* two decisions of this Court which have accorded section 8 of the Reclamation Act interstate effect. *Nebraska v. Wyoming*, 325 U.S. 589, 612-16 (1945); see *Wyoming v. Colorado*, 259 U.S. 419, 463-71 (1922). The Court must find that Congress delegated to the Secretary a power to make an interstate allocation of perpetual water rights, although members of Congress were virtually unanimous in their belief that Congress did not have that power to exercise by statute, much less to delegate to the Secretary of the Interior. (See *infra* pp. 146-47, 181-82, 186 note 1.)

If the Master is right that water supply will be abundant, the objective proposed by California presents no hazard to any existing project in any neighboring state, and it presents for a future project only the hazard that must be recognized and assumed by the sponsors of any new project anywhere in the West. The risk ought not to be cast upon projects which have become the basis of going economies, by the application of novel interpretations of the "law of the river" discovered 30 years too late.

IV. NONEXISTENCE OF THE MASTER'S CONTRACTUAL ALLOCATION SCHEME

The question of the validity of the Master's "contractual allocation scheme" is reached only if it is concluded (1) that the limitation must be rewritten to delete its incorporation of the Compact, and (2) that Congress validly delegated to the Secretary of the Interior the power to forever allocate water rights in the "mainstream," and (3) that he did so.

The "contractual allocation scheme" founders on the incontrovertible fact that no Secretary of the Interior

ever purported to make any such allocation. The contracts themselves contradict the existence of any such allocation. To find his allocation scheme, the Master not only rewrites the statutes, but he must also rewrite the contracts. Thus he excises from the contracts the clauses expressly reducing the Secretary's delivery obligations by reason of the contractees' uses above Lake Mead. (Rep. 237-47.) Even these excisions do not fit the contracts to the Procrustean bed. The very water delivery contracts relied upon by the Master to create the contractual allocation likewise expressly recognize the rights of New Mexico and Utah; the Arizona contract specifically recognizes "present perfected rights"—obviously as of 1944. These provisions must also be written out of the contracts to discover any correlation between the Master's "contractual allocation scheme" and the contracts as they were executed. (See pp. 201-03 *infra*.)

The Master assumes California agencies voluntarily accepted a "federal allocation" by entering contracts which were even harsher to California than the tri-state compact which California had refused to ratify.

Moreover, if any Secretary made any "allocation" to California, that allocation must be construed consistently with the limitation on California incorporating the Compact's systemwide concepts. So construed, the Secretary "allocated" to California 4,400,000 acre-feet per annum whenever the systemwide consumptive uses in the lower basin are 7,500,000 acre-feet per annum, and one half of any systemwide consumptive uses in excess of 7,500,000 acre-feet per annum, up to 962,000 acre-feet thereof.

In any event, and however the limitation is construed, the Secretarial "allocation" (if any) requires that shortages in "Article III(a) waters" shall be borne in inverse order of priority under the principles of priority of appropriation and equitable apportionment, thereby protecting California's existing projects. No contract purports to provide otherwise. (See pp. 211-31 *infra*.)

Very little could have been said in 1928, we think, in support of the Master's elaborate structure had it been proposed in Congress. Clearly any enthusiasm would have been limited to members of Congress from Arizona, who were in fact implacable in their opposition to the Project Act. Less can be said for it as an invention which bears the patent date of 1960.

V. WATER SUPPLY AND JUSTICIABILITY

The Master says that water supply cannot be determined within a margin of error which in fact is larger than the total quantity which Arizona in her Bill of Complaint claimed and described as unused.⁶ If the Master is correct that the Colorado River Compact is (1) a ceiling on appropriations and (2) irrelevant, it is possible that water supply cannot be determined by anyone. If so, there is no justiciable controversy before the Court.

Much of what the Master says about the difficulties of determining water supply he ascribes to deficiencies in the science of hydrology and in the hydrologic data available. In fact, the data are better than those available to the Court in any prior case in which water supply was determined. Determination of water supply, we

⁶Rep. 104; Ariz. Complaint, par. XVII, p. 21.

believe, is jurisdictional. Moreover, without such a determination, a basic and compelling fact about the impact of the recommended decree is concealed. However "inappropriate" Congress' language may have been to achieve the result presumably intended, its intent with respect to specific projects was clear: It intended to make it possible to supply, in California, the All-American Canal, the Palo Verde Irrigation District, and The Metropolitan Water District of Southern California. This intent was recognized, affirmed, and asserted by both friend and foe of the Project Act. (See pp. 236-38 *infra*.)

That intent is not frustrated alone by supervening drought. We recognize fully that nature has already impaired the supply on which we relied. But the purpose intended by Congress could not have been achieved, if the Master reads it correctly, even if the full supply anticipated were available; the injury to California results from the Master's rewriting the applicable law and the water delivery contracts. In so doing, he relieves Arizona from the deductions which her pleadings conceded should be made from the quantities claimed under that state's contract with the Secretary, and awards Arizona substantially more water than those pleadings demanded.

The compelling inference from the facts of water supply, if they are developed, is that the Master has recommended a decision based on error. It is an error the consequences of which can only be described by the word "disaster."

We ask that the decree of this Court recognize that no limitation has been imposed on California restricting her to use less than 4,400,000 acre-feet per annum

of the waters apportioned to the lower basin states by Article III(a) of the Colorado River Compact from the main stream and the tributaries, plus one half of the excess or surplus waters unapportioned by that Compact. We ask that the appropriative priorities of our existing projects within that 4,400,000 acre-feet be protected, and that our rights in one half of the excess or surplus be recognized.

CONCLUSION

California does not ask that any water be required to run to the ocean unused. We do not ask to be relieved of any obligation which our state has fairly assumed. We ask a decision that will fully protect the rights and virtually all of the ultimate requirements of all existing projects in Arizona and Nevada competing with California for water from the main Colorado River.

ARGUMENT

PART ONE

INTRODUCTION TO THE ARGUMENT: EQUITABLE APPORTIONMENT AND PRIORITY OF APPROPRIATION AS THE FOUNDATION OF WATER RIGHTS

The Special Master's Report proposes, in one stroke, to abolish one hundred years of western water law in the "mainstream"¹ and to substitute in its stead a novel system of water rights. The system proposed by the Master is the antithesis of the law formerly applied to the "mainstream" and the law still to be applied to every other part of the Colorado River system in the lower basin.²

The law which would control the disposition of the controversy before the Court in the absence of the Colorado River Compact, the Boulder Canyon Project Act, and the California Limitation Act is not now in dispute. That controlling law is equitable apportionment and its primary ingredient, the principles of prior appropriation.³

California insists that those enactments recognize the continued vitality of those principles within the lower basin, except as California is expressly limited. The Master proposes to construe the Boulder Canyon Project Act to nullify unilaterally, without the assent of the states, equitable apportionment and the law of prior appropriation in the "mainstream" and to authorize the

¹Defined in the Report as Lake Mead and the main Colorado River below. (Rep. 173, 185.)

²The main Colorado River between Lee Ferry and Lake Mead and all lower basin tributaries.

³Rep. 152, 316, 325-26.

creation of a unique system of water rights by the Secretary of the Interior through the execution of water delivery contracts which forever fix the allocations of "mainstream" water among California, Arizona, and Nevada regardless of beneficial use, nonuse, or existence of a project to use it. We say that the contracts of themselves create no interstate apportionment.⁴ They are intended to administer a system under which "beneficial use shall be the basis, the measure, and the limit of the right,"⁵ whether asserted intrastate or interstate, and whether the right so administered was initiated by an appropriation under state law or initiated by a federal contract for the use of stored water. However initiated—by state permit or license to appropriate or by federal contract—no intrastate or interstate water right is created unless, in the exercise of due diligence, a project is built to put the water to beneficial use, in which event the right relates back to the date of its initiation.

The Master's extraordinary proposal nullifies Congress' express command in the Project Act. It ignores the century of experience upon which western water law has been based. It overrules this Court's holding set down by Mr. Justice Brandeis which has been undisturbed for a generation. *Arizona v. California*, 283 U.S. 423, 464 (1931). It conflicts with the legislative

⁴In the alternative, we contend that if there were any contractual allocation scheme, the Master has misconstrued that scheme. See Argument *infra* pp. 195-231.

⁵The expression is from § 8 of the Reclamation Act of 1902, 32 Stat. 390, 43 U.S.C. §§ 372, 383 (1958), incorporated by reference in § 14 of the Boulder Canyon Project Act, 45 Stat. 1065, 43 U.S.C. § 617m (1958) (Rep. app. 394). Section 8 incorporates the relation-back principle and operates interstate. See *Nebraska v. Wyoming*, 325 U.S. 589, 612-14 (1945).

history of the Project Act and with the administrative, practical, and subsequent congressional construction of that act. It reverses the basis upon which development throughout the lower basin has proceeded for the last 30 years.

The extraordinary nature and the serious consequences of the Master's proposal to abolish the pre-existing law within the newly defined "mainstream" cannot be fully appreciated without considering the background and development of that law and its rationale.

1. *Principles of Western Water Law*

Western water law principles may be divided into two correlative and harmonious bodies of law: (a) The law of priority of appropriation applied internally by all of the western states⁶ and adopted by the federal reclamation laws, with some modifications, and (b) equitable apportionment, the major ingredient of which is the law of prior appropriation, heretofore consistently applied by this Court in resolving western interstate water disputes.

2. *Principles of Priority of Appropriation*

The appropriative rights doctrine was conceived more than a century ago in response to these basic facts of life in western United States: Water is scarce. (See Rep. 16.) In these states, arable land and metropolitan centers are often widely separated from the water supply. Water must be brought to the land and to the people, often from great distances, by the construction of

⁶Modified riparian rights which still exist in California (Rep. 22) are quantitatively insignificant in this controversy.

elaborate diversion works, canals, and aqueducts.⁷ Because existing streams are subject to erratic flows and floods,⁸ regulation of stream flow by immense storage reservoirs is imperative.

Appropriative rights began in the mining camps of the Sierra Nevada in California.⁹ At that time judges thought the choice of legal doctrines for the West was between what they assumed was the English common law of riparian rights and a new system based on priority of beneficial use. The new system was chosen, first in the mining camps, and later state by state throughout the West. The riparian doctrine,¹⁰ developed in humid climates at a time when streams were important mainly as a means of transportation instead of

⁷"Because of the topography and geography of the region, Colorado River water can feasibly and economically be utilized only by the construction of great projects consisting of dams, pumping facilities, desilting basins, canals and other works, the cost of which is enormous." (Rep. 133.)

⁸This is true not only of the Colorado River system (Rep. 20, 115, 117, 119-22), but of many other western streams, such as the Laramie, equitably apportioned by this Court in *Wyoming v. Colorado*, 259 U.S. 419, 486 (1922), the Cache la Poudre, analyzed in that case, *id.* at 475, and the North Platte, equitably apportioned by this Court in *Nebraska v. Wyoming*, 325 U.S. 589, 598 n.7 (1945). See comparisons of flow fluctuations of these streams and the Colorado River in plates 4, 5, and 6.

⁹*Irwin v. Phillips*, 5 Cal. 140 (1855); *Conger v. Weaver*, 6 Cal. 548 (1856).

¹⁰The riparian doctrine has three fundamental principles which are directly contrary to the law of appropriation. First, water may be used only by a riparian landowner, on riparian land, within the natural drainage basin of the stream from which it is taken. No similar restriction exists on appropriative rights, developed where export of water to site of use is a recognized necessity. Second, the riparian right is neither acquired by use nor lost by nonuse. In this respect it is the antithesis of the appropriative right. Third, the riparian right is correlative, with the consequence that a water user who had built a project 50 years ago and had used the water ever since would be forced to share, in abundance or scarcity, with the proprietor of a new project initiated tomorrow. This is likewise the antithesis of the appropriative doctrine that "first in time is first in right."

a resource essential for survival, failed utterly to meet the vastly different conditions in the arid West. The Master invites the Court to take a giant leap backward by reinstating the proration principle of the repudiated riparian doctrine and abrogating the priority principle of the appropriative doctrine.

Mr. Justice Stone, in an earlier suit between Arizona and California, aptly described the principles of appropriation:¹

“Under this doctrine, diversion and application of water to a beneficial use constitute an appropriation, and entitle the appropriator to a continuing right to use the water, to the extent of the appropriation, but not beyond that reasonably required and actually used. The appropriator first in time is prior in right over others upon the same stream, and the right, when perfected by use, is deemed effective from the time the purpose to make the appropriation is definitely formed and actual work upon the project is begun, or from the time statutory requirements of notice of the proposed appropriation are complied with, provided the work is carried to completion and the water is applied to a beneficial use with reasonable diligence. See *Arizona v. California*, supra [283 U.S. 423, 429 (1931)]; *Kansas v. Colorado*, 206 U.S. 46; *Wyoming v. Colorado*, 259 U.S. 419.”

Three principles provide the cornerstones of the appropriative rights doctrine: (a) Beneficial use is “the basis, the measure, and the limit of the right,”² (b)

¹*Arizona v. California*, 298 U.S. 558, 565-66 (1936).

²Reclamation Act § 8, 32 Stat. 390, 43 U.S.C. §§ 372, 383 (1958), incorporated in the Project Act by §§ 12 and 14 of the latter statute.

the earlier beneficial user is protected against a later user by the principle of first in time, prior in right, and (c) one who has properly initiated an appropriative right and who diligently pursues the construction of works to enable him to use the water, is entitled to a water right upon completion of his works with a priority dated back to his first initiation of the right for the full magnitude of the project he has built (the relation-back principle).

Thus the first fundamental is that a water right depends on beneficial use and is lost by nonuse. Where water is scarce, beneficial use must always be the basic criterion for a water right.

The second fundamental is the doctrine of priority: One who first initiates a project to put water to beneficial use and proceeds thereafter with due diligence has priority over later users. If there is a water shortage, that shortage is not shared equally by all persons with water rights on the same stream. Users cut back their use in inverse order of the priorities established by dates of initiation of the respective rights. The priority principle, rather than parity, has remained the basic element of western water law because it is the only principle, as experience has proved, which meets the needs of the West. There are several reasons for this.

In bringing land and water together, the investment of time and money—often great quantities of both³—

³The Master recognizes these facts (Rep. 133, 239), but fails to recognize that the water rights system he proposes dictates the failure of the very projects he realizes must be protected, unless the supply becomes very much greater than has been ex-

is required. The third fundamental, the relation-back principle, operating concomitantly with the priority principle, constitutes the only legal machinery yet devised which provides sufficient security to encourage, indeed to permit, the necessary investment. Under this doctrine the investor is protected against some risks, and other risks are calculable. He is relieved, under the priority doctrine and the relation-back principle, from yielding his place on the stream to a user who begins his use during the time the earlier appropriator has his project diligently under construction.⁴ He is protected from cutbacks in his supply by the acts of other men. Furthermore, he is insulated to some extent from shortages due to natural diminution of supply. At the time he wishes to undertake construction of a project the risks of supply under the prior appropriation doctrine are calculable. Dependable supply in a stream can be determined within reasonable limits of accuracy. The investor can thus ascertain in advance, within those limits, by determining the dependable supply and existing appropri-

perienced in the last 50 years. (See *infra* pp. 255-56, 260-61.) Nevertheless, he considers water supply irrelevant (Rep. 99). If so, the Colorado River is the only river west of the 100th meridian on which projects and their water rights are immune to the relevance of this fact of life.

⁴*E.g.*, the city of Los Angeles first made surveys initiating the Colorado River Aqueduct in 1923 (Rep. 65); appropriations of water for the project were initiated by that city in 1924 (Calif. Exs. 419 and 419-A (Tr. 9,395)) and by the city of San Diego in 1926 (Calif. Exs. 436, 437, and 437-A (Tr. 9,395)). Metropolitan, as successor to the city of Los Angeles and in furtherance of the project, executed water delivery contracts with the Secretary of the Interior in 1930 (Ariz. Ex. 38, Tr. 251) and in 1931 (Ariz. Ex. 39, Tr. 252). Metropolitan's was the first water delivery contract executed by the Secretary of the Interior. The project, at all times diligently pursued, was completed in 1960—almost 40 years after it was initiated. (See Rep. 69 and appendix, pp. A25-36.)

tive rights on the stream, how much of the dependable supply is unappropriated and will be available to his project.⁵ If parity (a basic ingredient of riparianism and the essence of the Master's formula allocation) is substituted for priority, no investor can evaluate the risks to which his project will be subject. Every user's water supply is always vulnerable to displacement or diminution by later users, the number of whom and the quantity of whose use are unknown and unknowable.⁶

The priority doctrine discourages building projects in excess of the reasonably dependable supply. Overbuilding creates disaster. When risks are calculable,

⁵The Master recognizes that "[T]he cost of such projects is enormous, and they can be financed only if a relatively constant and dependable supply of water seems likely to be available once they are completed. Similarly, existing projects cannot be economically operated unless a dependable supply of water is available" (Rep. 239). He nevertheless rejects the hydrological evidence presented to the Court ("[It] simply does not permit a prediction of future Lower Basin supply with that refined degree of accuracy necessary to show whether existing California uses can be satisfied from the percentage of future supply apportioned to California. On the contrary, the mass of evidence which has been presented shows only that the science of hydrology is not capable of sustaining a prediction accurate enough to shed light on this question", Rep. 103). But he does not explain how Congress, necessarily relying upon hydrological studies, will be able to make that determination usefully, whereas the Court cannot. In fact, hydrological studies are constantly used as the criteria upon which "such projects" are financed and built. The Master likewise overlooks the fact that great projects are financed and built not only by Congress, but by state and local private enterprise using their own financing.

⁶See *Yeo v. Tweedy*, 34 N.M. 611, 620, 286 Pac. 970, 974 (1929): "The exercise of those rights which have been in abeyance will frequently destroy or impair existing improvements, and may so reduce the rights of all that none are longer of practical value, and that the whole district is reduced to a condition of nonproductiveness. The preventive for such unfortunate and uneconomic results is found in the recognition of the superior rights of prior appropriators."

projects for which the risks clearly exceed the possible return are usually not built. But if the risks are undefined and undefinable, marginal projects are built. By the parity principle, both the prudent and the profligate share in disaster, which destroys the usefulness of the resource for all.⁷

Today, after more than a century of experience, eight western states recognize and apply priority of appropriation as the sole and exclusive basis of water rights: New Mexico, Arizona, Nevada, Utah, Colorado, Wyoming, Montana, and Idaho. The populated areas of these eight states are the most arid in the United States. Six of the eight are states of the Colorado River basin. In nine other states, water laws are a combination of appropriation and riparian rights: Washington, Oregon, and California on the Pacific Coast, and a tier of states on the 100th meridian east of the continental divide: North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. The climate of these nine states, in terms of average annual precipitation, is not as dry as that of the eight strictly appropriation states. It is drier (except for the Pacific Coast north of San Francisco and some of the mountainous regions) than the United States to the east of the tier on the 100th meridian. East of the 100th meridian the riparian doctrine has prevailed

⁷"Crops cannot be grown on expectations of average flows which do not come, nor on recollections of unusual flows which have passed down the stream in prior years. Only when the water is actually applied does the soil respond." *Wyoming v. Colorado*, 259 U.S. 419, 476 (1922).

except as recently modified by statute.⁸ The accompanying map (plate 1) illustrates the relationship between average annual precipitation and water law doctrines.

Courts early accorded recognition to the appropriation doctrine across state lines.⁹ Mr. Justice Holmes said that appropriations must be effective across state

⁸Today, mounting water use is bringing water shortages to regions of the United States long regarded as regions of water plenty. Under the impact of this experience, some of the traditionally riparian eastern states have already turned to the principles of appropriation. See Ziegler, *Statutory Regulation of Water Resources* in *WATER RESOURCES AND THE LAW* 89, 91-111 (1958), prepared by Legislative Research Center, University of Michigan Law School, for discussion of the statutes enacted in Mississippi (MISS. LAWS 1956, ch. 164), Iowa (IOWA LAWS 1957, ch. 229), and Florida (FLA. LAWS 1957, ch. 57-380). Other states are considering this change as well: *E.g.*, South Carolina, North Carolina, Arkansas, Wisconsin, and Michigan. See Fisher, *Western Experience and Eastern Appropriation Proposals* in *THE CONSERVATION FOUNDATION, LAW OF WATER ALLOCATION IN THE EASTERN STATES* 75, 90 (Haber & Bergen eds. 1958). It has also been suggested that the most satisfactory plan for the solution of water problems in Georgia would be the adoption of some form of the law of prior appropriation. *INSTITUTE OF LAW AND GOVERNMENT OF THE SCHOOL OF LAW, UNIVERSITY OF GEORGIA, A STUDY OF THE RIPARIAN AND PRIOR APPROPRIATION DOCTRINES OF WATER LAW* 106 (1955). The Model Water Use Act, prepared for the eastern states and approved by the National Conference of Commissioners on Uniform State Laws in August 1958 moves toward appropriation principles. The act provides both for loss of rights by nonuse (§ 306) and protection of existing uses (§ 303). By contrast, no state which has adopted the priority principle has abandoned it, nor has abandonment been seriously proposed.

⁹The first reported case involving that problem was *Howell v. Johnson*, 89 Fed. 556 (C.C.D. Mont. 1898). The Montana court there upheld the right of a downstream senior appropriator in Wyoming against the claim of an upstream junior appropriator in Montana. Five years later, in *Willey v. Decker*, 11 Wyo. 496, 73 Pac. 210 (1903), the Wyoming Supreme Court, in one of the most comprehensive reviews of the origins of appropriation in the western United States found in judicial decisions, concluded that imperative necessity, which gave birth to the doctrine, required its extraterritorial recognition.

lines because a state "cannot be presumed to be intent on suicide."¹

3. *Federal Recognition of Appropriation Principles*

Congress recognized and adopted by statutes dating from 1866 the water laws of the western states.² The Desert Land Act of 1877 requires that the desert land entryman prove a valid appropriative right under state law, and absent proof of such a right, an entry cannot be permitted or a patent issued under the act.³ Congressional adoption of the basic ingredients of appropriative rights is manifested in the Reclamation Act of 1902,⁴ the foundation act upon which the entire complex of federal reclamation laws has been built, including the Boulder Canyon Project Act which is a supplement to the reclamation laws.⁵ Section 8 of the 1902 act provides:⁶

¹Bean v. Morris, 221 U.S. 485, 487 (1911). See state and federal cases applying the law of appropriation across state lines collected in Wyoming v. Colorado, 259 U.S. 419, 470-71 (1922). See also Weiland v. Pioneer Irr. Co., 259 U.S. 498 (1922).

²E.g., see United States v. Fallbrook Pub. Util. Dist., 165 F. Supp. 806, 841-42 (S.D. Cal. 1958): "There is an almost unbroken line of statutes by which Congress has deferred to state laws concerning water. They . . . begin with the Act of July 26, 1866, and run through . . . the Colorado Storage Project Act of 1956." A line of 25 statutes is cited at 841 n.1. The texts of 36 such statutes are set out in appendix B to our rebuttal brief before the Special Master, dated June 30, 1959.

³Desert Land Act § 1, 19 Stat. 377 (1877), as amended, 43 U.S.C. § 321 (1958). Lands in Imperial and Palo Verde districts have been patented, both before and since the Project Act, on proof of appropriations of Colorado River water. (See appendix, pp. A5-6 and A10-11.)

⁴Act of June 17, 1902, ch. 1093, 32 Stat. 388, as amended (codified in scattered sections of 43 U.S.C.).

⁵Section 14 of the Project Act (Rep. app. 394) expressly so declares; § 12 of the same act defines "reclamation law" in terms of the 1902 act and acts amendatory thereof and supplemental thereto. (Rep. app. 392.)

⁶32 Stat. 390, 43 U.S.C. §§ 372, 383 (1958).

"That nothing in this Act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provisions of this Act, shall proceed in conformity with such laws, and [nothing herein shall in any way affect any right of any State or of the Federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof]:⁷ *Provided*, That the right to the use of water acquired under the provision of this Act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right."¹

The rationale and purpose of the congressional recognition has been forcefully stated by this Court:²

"The rule generally recognized throughout the states . . . of the arid region was that the acquisition of water by prior appropriation for a beneficial use was entitled to protection

The rule was evidenced not alone by legislation

⁷(Footnote and brackets ours.) The bracketed phrase indicates Congress' intent that § 8 should not affect the then pending case of *Kansas v. Colorado*, 185 U.S. 125 (1902). See *Wyoming v. Colorado*, 259 U.S. 419, 463 (1922).

¹Section 8 was given interstate effect in *Nebraska v. Wyoming*, 325 U.S. 589, 612-15 (1945). See *Wyoming v. Colorado*, 259 U.S. 419, 463-71 (1922).

²*California Ore. Power Co. v. Beaver Portland Cement Co.*, 295 U.S. 142, 154, 157 (1935). See also *United States v. Gerlach Live Stock Co.*, 339 U.S. 725, 746 (1950); *Wyoming v. Colorado*, 259 U.S. 419, 459 (1922).

and judicial decision, but by local and customary law and usage as well.

“

“ [I]t had become evident to Congress, as it had to the inhabitants, that the future growth and well-being of the entire region depended upon a complete adherence to the rule of appropriation”

4. *Equitable Apportionment Doctrine*

The law applied by this Court in interstate water disputes is known as “equitable apportionment.” The word “equitable” in that phrase is a word of art developed in interstate water litigation. It is not a word of loosely defined content which requires the Court to dispense water rights with neither legal criteria nor guideposts. The Court has rightly rejected such a role and has defined the rules which it will apply in making an equitable apportionment of interstate waters. Between states which apply internally the law of prior appropriation, that law provides the basic ingredient of equitable apportionment. Mr. Justice Cardozo, in *Washington v. Oregon*, 297 U.S. 517 (1936), stated the essence of the inquiry in suits over water rights between appropriation states as follows (*id.* at 526):

“The question remains whether the Oregon irrigators as a result of all their acts are taking to themselves more than their equitable proportion of the waters of the river, priority of appropriation being the basis of division.”

Although “priority of appropriation is the guiding

principle”³ in an equitable apportionment suit, it is not the sole criterion:⁴

“[A]ll the factors which create equities in favor of one state or the other must be weighed as of the date when the controversy is mooted.”

As the Master correctly observes (Rep. 326):

“It is worthy of note that the Court, in an equitable apportionment suit, has never reduced junior upstream existing uses by rigid application of priority of appropriation. Indeed, the tendency has been to protect existing uses wherever possible.”

A fortiori, water is never reserved for future uses when the supply is inadequate to meet the requirements of prior appropriation by existing projects. (Rep. 326-27, 331.)

Congress was repeatedly told during the debates on the third and fourth Swing-Johnson (Boulder Canyon Project) bills, both in the House and in the Senate, that the rule of water law in the arid West was the prior appropriation doctrine.⁵ Congress also knew that the appropriation doctrine applied across state lines under the decision of this Court in *Wyoming v. Colorado*, 259

³*Nebraska v. Wyoming*, 325 U.S. 589, 618 (1945), quoted at Rep. 326.

⁴*Colorado v. Kansas*, 320 U.S. 383, 394 (1943); quoted with approval, *Nebraska v. Wyoming*, *supra* note 3, at 618.

⁵*E.g.*, 68 CONG. REC. 2653-54 (1927) (Rep. Taylor of Colorado); *id.* at 3065 (Rep. Leatherwood of Utah); *id.* at 3273 (Rep. Lea of California); *id.* at 3294 (Rep. Winter of Wyoming); *id.* at 4291-92 (Sen. Johnson of California); *id.* at 4412 (Sen. Pittman) 69 CONG. REC. 9763-64 (1928) (Rep. Taylor); 70 CONG. REC. 233, 235-37 (1928) (Sen. Johnson); *id.* at 327 (Sen. Bratton of New Mexico); *id.* at 391-92 (Sen. Borah of Idaho); *id.* at 461 (Sen. Hayden of Arizona).

U.S. 419 (1922).⁶ Section 8 of the Reclamation Act of 1902, conferring federal blessing upon the principles of prior appropriation, was likewise called to Congress' attention as an integral part of the Project Act.⁷

If Congress had intended to abrogate, change, or modify what it knew was the settled existing law, the inference is inescapable that it would have expressed itself clearly on that subject. That intention does not appear in the Project Act expressly and it cannot be fairly implied. On the contrary, the Project Act expressly preserves equitable apportionment and priority principles, except to the extent that those principles have been qualified by valid interstate agreement, and this Court has so held. *Arizona v. California*, 283 U.S. 423, 464 (1931); *United States v. Arizona*, 295 U.S. 174, 183 (1935). (See *infra* pp. 140-45.)

The foregoing principles have been qualified by two interstate agreements: (1) the Colorado River Compact, which makes an apportionment in perpetuity to each basin and thus supplants preexisting law in respect of those apportionments basin versus basin, and (2) the California Limitation Act and the first paragraph of

⁶*E.g.*, 67 CONG. REC. 12623 (1926) (Sen. Johnson of California); 68 CONG. REC. 4522 (1927) (Sen. Kendrick of Wyoming); 69 CONG. REC. 10472, 10476-77 (1928) (Sen. Ashurst of Arizona); 70 CONG. REC. 163 (1928) (Sen. King of Utah); *id.* at 242 (memorandum by L. Ward Bannister inserted in *Congressional Record* by Sen. Phipps of Colorado); *id.* at 292 (Sen. Ashurst); *id.* at 391 (Sen. Hayden of Arizona); *id.* at 584 (memorandum by Delph E. Carpenter inserted in *Congressional Record* by Sen. Waterman of Colorado); *id.* at 1012 (Rep. Morrow of New Mexico).

⁷*E.g.*, *Hearings on H.R. 9826 Before the House Committee on Rules*, 69th Cong., 2d Sess., pt. 3, at 116 (1927) (Rep. Swing); 68 CONG. REC. 4291 (1927) (Sen. Johnson); 70 CONG. REC. 291 (1928) (Sen. Ashurst). See *infra* pp. 148-50.

section 4(a) of the Project Act, which together constitute an intersovereign compact imposing a quantitative ceiling upon California's uses of waters of the Colorado River.⁸ But within the framework established by the Colorado River Compact and by the quantitative ceiling of the limitation upon California, the principles of equitable apportionment and priority of appropriation still control the intrastate and interstate apportionment of the waters of the entire Colorado River system in the lower basin including the "mainstream."

We do not contend, as the Master suggests we contend, that the limitation creates any water rights in California. (See Rep. 231.) It is a limitation, not a grant. Our rights are based upon (1) preexisting appropriations, referred to as "rights which may now exist" in both the limitation and in Article III(a) of the Compact, and (2) principles of priority of appropriation and equitable apportionment adopted and applied in the federal water storage and delivery contracts (*infra* pp. 174-75). The limitation, like the Colorado River Compact, includes "all water necessary for the supply of any rights which may now exist" in explicit recognition of the preexisting rights.

Water delivery contracts executed pursuant to the Boulder Canyon Project Act, like water delivery contracts executed pursuant to other parts of the reclamation law, are not substitutes for interstate compacts.

⁸"Rights which may now exist," the phrase used in both Article III(a) of the Colorado River Compact and the Limitation Act, refers to appropriative rights, unless we are to conclude that the words are meaningless; no other rights existed (except those for federal establishments and a few riparian landowners in California).

Water delivery contracts are essential working parts of the administration of reclamation projects in all of the 17 western states and are a familiar device in every such project. Water delivery contracts neither supplant nor modify equitable apportionment and priority principles.⁹

Rejecting both western experience and history, the Master concludes that Congress intended in the Project Act to destroy utterly every fundamental principle of western water law in the "mainstream" (saving only those portions of appropriative rights represented by uses thereunder prior to 1929) and to substitute in its place a system of water rights which, in every respect, is its antithesis: parity replaces priority, water rights are neither created by beneficial use nor lost by nonuse, relation back is abolished.

We shall examine the judicial decisions, the statutory language, the legislative history, and the administrative, practical, and congressional construction which confirm the continued vitality of these principles of western water law within the lower basin. Under those principles, there can be no doubt that California's rights for her existing projects are superior to the claims of Arizona and Nevada for new projects, as yet neither built nor authorized.

The starting point of our disagreement with the Master is his novel construction of the limitation on California, more harsh to California and more generous to Arizona than any decision for which Arizona contended in her pleadings in this case or any of its predecessors.

⁹The purpose and effect of water delivery contracts are explained *infra* pp. 169-75.

PART TWO

THE INTERPRETATION OF THE LIMITATION ON CALIFORNIA, PROPOSED IN THE BOULDER CANYON PROJECT ACT AND ACCEPTED IN THE CALIFORNIA LIMITATION ACT, IS CONTROLLED BY THE MEANING OF THE COLORADO RIVER COMPACT EXPRESSLY INCORPORATED BY REFERENCE IN BOTH STATUTES

Statement of the Issue

The resolution of a pivotal issue in this case turns on the construction of a very few words which appear in almost identical form in two statutes: the Boulder Canyon Project Act, first paragraph of section 4(a),¹ and the California Limitation Act.² Those words, identified here by italics and brackets in their context in the Project Act, are as follows (Rep. app. 382):

"California . . . shall agree irrevocably and unconditionally with the United States and for the benefit of the States of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming, as an express covenant and in consideration of the passage of this Act, that the aggregate annual consumptive use (diversions less returns to the river) of water of and from the Colorado River for use in the State of California, including all uses under contracts made under the provisions of this Act and all water necessary for the supply of any rights which may now exist, shall not exceed four million four hundred thousand acre-feet of the [1]

¹45 Stat. 1058 (1928), 43 U.S.C. § 617c (1958) (Rep. app. 381-82).

²CALIF. STATS. 1929, ch. 16, p. 38 (Rep. app. No. 4).

waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact, plus not more than one-half of any [2] excess or surplus waters unapportioned by said compact, said uses always to be subject to the terms of said compact."

California did agree in the California Limitation Act, repeating this language substantially *in haec verba*. (Rep. app. No. 4.)

The limitation expressly incorporates the Compact by reference. That incorporation poses two distinct questions of interpretation: (1) To what provisions of the Compact does each phrase refer? The intention of Congress and of the legislatures of California and the other basin states³ determines the answer. (2) What is the meaning of the Compact provisions referenced in each phrase? The meaning of the Compact controls the answer.

To both questions, the Master's response is that the Compact is irrelevant (Rep. 138) and is not incorporated by reference (Rep. 173):

"I have concluded that Congress intended, in limiting California to 4.4 million acre-feet of 'the waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact,' simply to limit California's annual uses of water to 4.4 out of 7.5 million acre-feet. Con-

³Congress specified the limitation in the Project Act (first paragraph of § 4(a)); California adopted the limitation in the California Limitation Act, and six basin states (excepting Arizona) accepted the limitation as the basis for six-state ratification of the Compact either by enacting such ratification or by forbearing to repeal earlier ratification. (See Rep. 24-27.) The importance of this consensual character of the limitation is explained *infra* pp. 128-37.

gress referred to Article III(a) of the Compact solely as a shorthand way of saying '7,500,000 acre-feet per annum.' This inappropriate reference to the Compact has been the cause of seeming inconsistency in the Act and of much confusion in its interpretation. Reflection has led to the conviction that the statutory language does not accurately express the true congressional intention.

"Thus I hold that Section 4(a) of the Project Act and the California Limitation Act refer only to the water stored in Lake Mead and flowing in the mainstream below Hoover Dam, despite the fact that Article III(a) of the Compact deals with the Colorado River System, which is defined in Article II(a) as including the entire mainstream and the tributaries."

Phrase 1: The reference to Article III(a) of the Compact

Phrase [1] directs the reader to Article III(a) of the Compact, which provides:

“(a) There is hereby apportioned from the Colorado River System⁴ in perpetuity to the Upper Basin and to the Lower Basin,⁵ respectively, the exclusive beneficial consumptive use of 7,500,000 acre-feet of water per annum, which shall include

⁴(Footnote ours.) “Colorado River System” as used in the Compact means “that portion of the Colorado River and its tributaries within the United States of America” (Art. II(a), Rep. app. 372).

⁵(Footnote ours.) “Lower Basin” means “those parts of the States of Arizona, California, Nevada, New Mexico, and Utah within and from which waters naturally drain into the Colorado River System below Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River System which are now or shall hereafter be beneficially served by waters diverted from the System below Lee Ferry” (Art. II(g), Rep. app. 372).

all water necessary for the supply of any rights which may now exist."

The Special Master correctly construes this "unmistakable language" (Rep. 143) of the Compact to refer to all Colorado River system waters, both from the main Colorado River and its tributaries, in the lower basin, and not just to "mainstream" waters in Lake Mead and below (Rep. 142-44, 173). It follows, therefore, that unless the plain language of phrase [1] is to be disregarded, it incorporates this meaning from the Compact.⁶

Phrase 2: The reference to "excess or surplus waters unapportioned" by the Compact

The Compact reference intended by phrase [2], a phrase which does not appear in the Compact, is not so clear. Of the component words in that phrase, "excess" never appears in the Compact, "surplus" only in Article III(c)⁷ and "unapportioned" only in Article

⁶California does not contend that the provisions of the Compact are operative, *ex proprio vigore*, to control the disposition of this case. California contends that the Project Act and the California Limitation Act adopt the Compact definitions as their own, and apply these definitions, as components of federal and state statutes, to the disposition of the case. The Master, for the most part, adopts California's interpretations of the Compact and rejects Arizona's, but declines to give any effect to the limitation's references to the Compact, howsoever construed.

⁷Article III(c) provides (Rep. app. 373):

"If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River System, such waters shall be supplied first from the *waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b) [of Article III]*; and if *such surplus* shall prove insufficient for this purpose, then, the burden of such deficiency shall be equally borne by the Upper Basin and the Lower Basin, and whenever necessary the States of the Upper Division shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d)." (Emphasis and bracketed words added.)

III(f).⁸ The question is whether Congress and the legislatures of California and of the other basin states intended by phrase [2], "excess or surplus waters unapportioned by said compact," to refer, *inter alia*, to the waters specified in Article III(b) of the Compact. (Cf. Rep. 168-69, 197.) Article III(b) provides (Rep. app. 373):

"In addition to the apportionment in paragraph (a) [of Article III], the Lower Basin is hereby given the right to increase its beneficial consumptive use of such waters by one million acre-feet per annum." (Bracketed words added.)

The Master agrees that Article III(b), like Article III(a), refers to all Colorado River system waters in the lower basin, not merely to waters from the "mainstream" (Rep. 147, 150). However, the Master asserts that if phrase [2] is read literally California cannot share in Article III(b) waters. (E.g., Rep. 150-51, 168-69, 194-96.) The Master nevertheless concludes, by recourse to Senate debates, that Congress intended the "excess or surplus" accounting to begin when there is more water available for consumptive use than the 7.5 million acre-feet of "Article III(a) water." Congress did not intend to exclude California completely from the next million acre-feet (Rep. 194-200). We contend that a sound and literal reading of phrase [2], "excess or surplus waters unapportioned by said com-

⁸Article III(f) provides (Rep. app. 374):

"Further equitable apportionment of the beneficial uses of the waters of the Colorado River System unapportioned by paragraphs (a), (b), and (c) [of Article III] may be made in the manner provided in paragraph (g) at any time after October first, 1963, if and when either Basin shall have reached its total beneficial consumptive use as set out in paragraphs (a) and (b)." (Emphasis and bracketed words added.)

pact," also achieves that result and permits California to share in those III(b) waters. (*Infra* pp. 106-10.)

Significance of the Issue

Our difference with the Special Master over the meaning of the limitation may be stated in several ways:

In terms of statutory construction

In its simplest form, and yet the form which most precisely identifies the major legal issue, our difference with the Master can be reduced to an astonishingly simple question: *Do the words "Colorado River compact" and "said compact" in section 4(a) of the Project Act and in the Limitation Act mean the Colorado River Compact?* The Master concludes that they do not. Until the Master so held, there had never, in the last 30 years of Colorado River history and controversy, been the slightest suggestion that such was the case. Indeed, Arizona, even now, contends that Compact and Project Act should be harmonized by the view that Congress modified the Compact.⁹

If it is decided that "Colorado River compact" and "said compact" mean the Colorado River Compact, the construction of phrase [1], the "III(a) issue," is concluded in our favor by the Master's Report. (Rep. 142-44, 173; discussed *supra* pp. 71-72.)

In terms of the usefulness of the decision

This litigation was initiated by Complaint of Arizona to quiet an asserted title to water of the Colorado River system and for the express purpose of securing a dependable water supply for the proposed Central Arizona Project. (Rep. 30-31, 130-31.) Alternative diversion points on the main Colorado River were considered for

⁹See Ariz. Exceptions, pp. 7-8.

that project: Bridge or Marble Canyon above Lake Mead, or Parker Dam below Lake Mead. (*Supra* p. 7.) The decision that the limitation on California does not refer to the Colorado River Compact, or to Compact categories of water, but exclusively to waters from the "mainstream" (Lake Mead to the Mexican border) is the basis of the recommended decree which would leave all rights above Lake Mead unadjudicated. Unless Arizona chooses a diversion route from below Lake Mead, the decree has nothing to do with water for the Central Arizona Project. The Master leaves rights above Lake Mead to adjudication by future suit to which principles of equitable apportionment shall apply. (Rep. 316-21.)

In quantitative terms

As to the 7.5 million acre-feet referred to in phrase [1]:¹ Is California limited to 4.4 million acre-feet of the first 7.5 million acre-feet of annual consumptive use from the entire Colorado River system, main stream and tributaries, in the lower Colorado River basin (as we say), or to 4.4 million acre-feet of the first 7.5 million acre-feet of consumptive use from that segment of the Colorado River which the Master calls "mainstream," i.e., from Lake Mead and below?

Conversely, as to the 3.1 million acre-feet (7.5 million minus 4.4 million) from which California is excluded: Must that quantity be claimed by the other four lower basin states (Arizona, Nevada, New Mexico, and Utah) from the entire Colorado River system in the lower basin (as we say), or may it be claimed in its entirety from the "mainstream," in competition with California's

¹The Master agrees that the quantity referred to is 7.5 million acre-feet, but leaves to complicated exegesis the discovery of where the figure 7.5 comes from, if not from the Compact. The limitation does not use the figure.

4.4 million, by the two lower basin states having geographic access thereto (Arizona and Nevada), undiminished by their uses on the "tributaries," including the main stem from Lee Ferry to Lake Mead?

As to the "excess or surplus" referred to in phrase [2]: Is California limited to annual consumptive use of one half of "excess or surplus" over and above that 7,500,000 acre-feet of consumptive use from the entire Colorado River system, main stream and tributaries, in the lower basin (as we say), or to one half of "excess or surplus" over and above the first 7,500,000 acre-feet of consumptive use from the "mainstream"?

Conversely, as to the one half of "excess or surplus" from which California is excluded: Must that half be claimed by the other four lower basin states from the entire Colorado River system in the lower basin (as we say), or may it be claimed in its entirety from the "mainstream" by Arizona (and perhaps Nevada)?

The practical consequences of the resolution of this issue turn upon the Special Master's identification of the waters from which California is excluded. The Master holds that under the Project Act the claims against those waters from which we are excluded must be satisfied wholly from the "mainstream" and not, as we contend, from the Colorado River system (the main Colorado River and tributaries) within the lower basin as defined in the Colorado River Compact. The consequences are readily demonstrable:

None of the parties contend that there will not be sufficient water throughout the Colorado River sys-

tem in the lower basin to sustain permanently the consumptive use of at least 7.5 million acre-feet annually. Of this, the permanently dependable supply in the tributaries now supports about 2 million acre-feet per annum of consumptive use, and the permanently dependable supply in the Colorado River from Lee Ferry to the Mexican boundary can probably support a beneficial consumptive use of not less than 5.5 million acre-feet per annum.²

Therefore, if the emphasized words identified by the bracketed number [1] relate to Colorado River *system* water throughout the lower basin, the permanently dependable supply is adequate to sustain California's use of at least 4.4 million acre-feet per annum, as well as the consumptive use of 3.1 million acre-feet by the other lower basin states: Arizona, Nevada, New Mexico, and Utah.

Whenever *system* supply in the lower basin will support beneficial consumptive uses exceeding 7.5 million acre-feet per annum, there is "excess or surplus" which California may use in satisfaction of her appropriations to the limit of one half.

However, the Report's interpretation of the words identified by the bracketed number [1] limits the waters referred to therein to that segment of the Colorado River system which the Report labels "mainstream." This interpretation makes it impossible to satisfy permanently 7.5 million acre-feet of consumptive use from such waters because the permanently dependable supply of the "mainstream," so defined, available for consumptive use in the lower basin is sub-

²See *supra* pp. 20-21.

stantially less than 7.5 million.³ This interpretation also creates the shortage which the Master prorates. (See Part Three *infra* pp. 138-94 and Part Four *infra* pp. 211-31.)

If some 2 million acre-feet of consumptive use which is now sustained by the permanently dependable supply of the tributaries in the lower basin is eliminated from the limitation accounting, as the Report would do, the dependable "mainstream" supply, considered alone, contains no "excess or surplus." This makes inoperative, for all practical purposes, the provision of section 4(a) which permits California to use up to one half of "excess or surplus waters unapportioned by said compact."

In terms of other issues

Are principles of equitable apportionment and priority of appropriation replaced by a "contractual allocation scheme" divesting interstate priorities (except for "present perfected rights") of "mainstream" users *inter*

³"With the storage provided by Lake Mead, and barring a drought unprecedented in the recorded history of the River, the Lower Basin has, under the guarantee of the Compact, available for use at Hoover Dam a minimum of 7,500,000 acre-feet of water per year, less transit losses between Lee Ferry and the dam, evaporation loss from Lake Mead, and its share of the Mexican treaty obligation." (Rep. 144-45.) When minimum figures are substituted for the deductions specified by the Master and for similar losses below Hoover Dam which the Report properly characterizes as a further diminution of supply (Rep. 187), this is a "guarantee" under the Compact of less than 6 million acre-feet per year of consumptive use from the "mainstream." (See plates 7 and 8 *infra* and explanatory note preceding plate 7.)

To satisfy 7.5 million acre-feet of beneficial consumptive use from the "mainstream" in Arizona, Nevada, and California, there must be a supply (*i.e.* flow) of at least 10 million acre-feet of water annually in the "mainstream," because of requirements of the Mexican Water Treaty and of unavoidable losses. The supply which can actually be expected on a permanent basis does not exceed 8.7 million acre-feet of flow. See *supra* p. 41 note 4 and *infra* tables 7 and 8.

sese? Water rights from the main stream above Lake Mead and from the lower basin tributaries rest on equitable apportionment, and not on contracts to store and deliver from Lake Mead. (Rep. 316-21.) The limitation on California is the cornerstone of the Master's "contractual allocation scheme." Its essential premise is that the figure "7,500,000 acre-feet" which the Master agrees must be found in the limitation itself,⁴ must be identified with 7,500,000 acre-feet from the "main-stream" and not the 7,500,000 acre-feet from the Colorado River system to which Article III(a) of the Compact refers.

The Master's "contractual allocation scheme" collapses if the 7,500,000 acre-feet referred to by the limitation is the 7,500,000 acre-feet from main stream and tributaries, to which he agrees Article III(a) of the Compact in fact refers (Rep. 142-44). (See Part Four *infra* pp. 206-11.)

In conceptual terms

Is the offer which Congress made to California in the Project Act, and which California accepted in its Limitation Act as the basis for six-state ratification of the Colorado River Compact, to be construed as a compact between these sovereigns in accordance with its plain and literal language, or is it to be construed solely as a federal statute and then its natural and literal meaning emasculated by reference to only the ambiguous part of the legislative history?

⁴"Congress referred to Article III(a) of the Compact solely as a shorthand way of saying '7,500,000 acre-feet per annum.'" (Rep. 173.)

I. THE SPECIAL MASTER'S CONCLUSION THAT SECTION 4(a) CANNOT BE READ LITERALLY IS WRONG

The Master's rejection of the limitation's express reference to the Compact begins with his conclusion that "the words of Section 4(a) . . . *cannot* bear their literal meaning." (Rep. 170; emphasis added.) The results which the Master perceives in a literal reading "would fly in the face of what must have been the congressional intention" and "would make no practical sense whatsoever" (Rep. 172). It is only after the Master thereby renders useless the express language of the limitation that he turns to construction by inference in contradiction of its natural and literal meaning. (See Rep. 173.)

None of the Master's reasons for rejecting the precise terms of the limitation are sound.

A. There Is No Distinction Between Article III(a) as Used in the Compact and Article III(a) as Used in the Project Act

In his explanation of the meaning of the Colorado River Compact, the Special Master discovers a distinction—previously unperceived by all parties during this litigation or the prior controversy—between Article III(a) as used in the Project Act and Article III(a) as used in the Colorado River Compact. The Master's distinction, if we understand it, is this: The limitation on California speaks of the "*waters* apportioned to the lower basin States" by Article III(a) of the Compact. (Emphasis added.) This is Project Act III(a), which the Master describes as a "source of supply." But Compact III(a) is asserted to be not a source of supply but

a "limitation on appropriative rights." Therefore, the Master concludes, there is Article III(a) *water* only "in the Project Act sense" (a source of supply), but not "in the Compact sense" (a limitation on appropriative rights).⁵

The Master's supposed dichotomy is unreal.

Both the Compact and the limitation refer, identically, to a quantity of water necessary to supply 7.5 million acre-feet of consumptive use annually.⁶ This identity follows from the use of the same language and

⁵Rep. 149:

"As the foregoing discussion indicates, I regard Article III(a) and (b) as a limitation on appropriative rights and not as a source of supply. So far as the Compact is concerned, Lower Basin supply stems from Article III(c) and (d). There are, of course, other sources of supply, for example, Lower Basin tributary inflow, but these are not dealt with as supply items in the Compact. Thus when referring to the Compact, it is accurate to speak of III(c) and III(d) water, but it is inaccurate and indeed meaningless to speak of III(a) and III(b) water. For Compact purposes, Article III(a) and (b) can refer only to limits on appropriations, not to the supply of water itself.

"It is true that Congress in Section 4(a) of the Project Act, treated Article III(a) as a source of supply rather than as a limitation on appropriations. The Act speaks of 'the waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact' Later in this Report I shall develop at some length the meaning of this language and the confusion it has produced in this litigation. Suffice it now to say that the congressional meaning is different from the Compact meaning. One may properly speak of III(a) water in the Project Act sense, but not in the Compact sense. Much of the confusion in this case may be traced to this difference between the two writings, for the parties speak of III(a) water without differentiating between the Compact and the Project Act."

The Master's statement that lower basin tributary inflows "are not dealt with as supply items in the Compact" conflicts with his correct conclusion that beneficial consumptive use from the tributary supply is accountable under Article III(a) and (b) of the Compact (Rep. 142-44).

⁶Since the limitation takes its meaning from the Compact, both refer to Colorado River system water.

the same concepts in both documents.⁷ Article III(a) of the Compact provides that "there is hereby apportioned : . . . the exclusive beneficial consumptive use of 7,500,000 acre-feet of *water* per annum" The Compact's Article III(a) apportionment includes "all *water* necessary for the supply of any rights which may now exist." The limitation on California includes in precisely identical words: "all *water* necessary for the supply of any rights which may now exist." The Master agrees that the term "beneficial consumptive use" in Article III(a) of the Compact and the term "aggregate annual consumptive use (diversions less returns to the river)" in the limitation both mean "diversions less returns to the stream" (Rep. 147-49, 185-87). (All emphasis added.)

Many other provisions of the Compact in addition to Article III(a) make clear the Compact's intention in Article III(a) to specify a *quantity of water* available for beneficial consumptive use. Article I states that a major purpose of the Compact is to provide for the "apportionment of the use of the *waters* of the Colorado River System" Article III(c) refers to the "*waters* which are surplus over and above the aggregate of the *quantities* specified in paragraphs (a) and (b)" of Article III. Article III(f) speaks of "the *waters* of the Colorado River System unapportioned by paragraphs (a), (b), and (c)" of Article III. Article

⁷If the Master is correct that the Compact's apportionment in perpetuity is merely a "limitation on appropriative rights" (Rep. 149), then it is identical to the limitation on California's appropriative rights. See Rep. 231: "The first paragraph of Section 4(a) is a limitation on California, not a grant to her"

Compare Rep. 139-41 re the purpose of the Compact with Rep. 165-66 re the purpose of the limitation on California.

VIII provides that all rights to system waters other than present perfected rights shall be satisfied solely from "the *water* apportioned to that Basin in which they are situate." (All emphasis added.) If the Master were correct, the Compact would be hopelessly self-contradictory. (Cf. Rep. 195-96.)

Not even the Special Master is able to apply consistently the supposed dichotomy. In his discussion of California's rights to "tributary" waters under equitable apportionment principles, the Master states (Rep. 316-17):

"With respect to California, Section 4(a) is concerned with consumption and not with supply and therefore does not affect any rights of that state to demand that tributary water be permitted to flow into the mainstream." (Emphasis added.)

Furthermore, articles II(B)(5), (6), and (8) of the recommended decree speak of "*water* apportioned for consumptive use" (Rep. 348-49). Decree article II (B)(8) also speaks of releasing "*apportioned but unused water . . . for consumptive use*" (Rep. 349). Do these provisions refer to a "limitation on appropriative rights" or a "source of supply"? Earlier in his Report, the Master answers this question when he states that "the recommended decree apportions water in those terms," *i.e.*, "in terms of consumptive use (diversions from the mainstream less return flow thereto)." (Rep. 126.)

We agree with the Master that there is a vitally important distinction between "supply" (meaning the quantity of water flowing at a particular point, as in Compact Article III(d)), and "consumptive use" (meaning the quantity of water diverted less the quan-

tity returning to the stream system, as in Compact Article III(a)). About 8,700,000 acre-feet of "supply"—flow from Hoover Dam—is required to produce about 6,000,000 acre-feet of "use"—diversions less returns to the stream—below Hoover Dam, and hence this distinction between supply and use is essential to avoid total confusion. (See plate 7 *infra*.) The Special Master, in a single paragraph, eliminates that confusion which has existed on this point for 30 years when he explains why Compact III(a) and III(d) cannot be correlative.⁸ This distinction between supply and use, however, is wholly unrelated to the dichotomy created by the Special Master which, if uncorrected, will create even greater confusion for at least another generation for those seeking this evanescent distinction between Compact III(a) and Project Act III(a). Both mean the quantity of water necessary to sustain 7.5 million acre-feet of consumptive use per annum. Both refer to the same 7.5 million acre-feet of systemwide lower

⁸Rep. 144:

"Lastly, Arizona argues that Article III(a) relates to the mainstream only because III(a) and III(d) are correlative, III(d) being III(a) multiplied by ten, and Article III(d) is clearly a mainstream measurement. This argument is unacceptable. Since Article III(a) imposes a limit upon appropriation whereas III(d) deals with supply at Lee Ferry, an interpretation which makes these two provisions correlative one to another is inadmissible. Since a substantial quantity of water is lost through reservoir evaporation and channel losses as it flows from Lee Ferry, the point where the III(d) obligation is measured, to the diversion points downstream from Hoover Dam, where most of the appropriations are made, 7,500,000 acre-feet of water at Lee Ferry will supply a considerably smaller amount of appropriations below Hoover Dam. Moreover, III(a) extends to appropriations on Lower Basin tributaries as well as the mainstream. Such appropriations cannot possibly have any relation to the quantitative measurement of the flow of water at Lee Ferry."

basin consumptive use, from main stream *and* tributaries.

Thus, (1) the Project Act, (2) the Limitation Act, (3) the Compact, and (4) the Master's Report and recommended decree are all consistent and uniformly use the word "water" to refer to the water necessary to supply the consumptive uses in the quantities stated.

B. A Natural and Literal Reading of the Limitation's Reference to the Compact Does Not Produce the Irrational and Unfair Results Discovered by the Master

The Master asserts that a "literal interpretation" of section 4(a) "would make no practical sense whatsoever" (Rep. 172) because it would divest Utah's and New Mexico's lower basin uses; exclude the upper basin from surplus, and prohibit the use in California of waters which would otherwise go to waste. In each instance, the Master portrays a "literal" interpretation which is not truly literal but which would produce an irrational or unfair result; because of that result, he then rejects the "literal" interpretation.

The results which the Master perceives do not flow from a reasonable reading of the natural and literal language of the limitation.

1. *Utah and New Mexico Would Not Be Excluded From All Lower Basin Uses*

The Special Master asserts that section 4(a) of the Project Act, read literally, authorizes a tri-state compact among Arizona, California, and Nevada which would divide among these three states all of the Colorado River system waters in the lower basin; thus, Utah and New Mexico would be deprived of any lower basin system waters, including the lower basin tributary waters which are now being consumed in those states

and which were being consumed therein as of 1928. (Rep. 170-71.) The Master concludes that "the unlikelihood of such a congressional intention indicates that Section 4(a) should not be given its literal meaning." (Rep. 171.)⁹

New Mexico and Utah would not be and could not be excluded from the use of any water by any compact among Arizona, California, and Nevada.¹ Neither the authorization nor the ratification of any interstate compact could affect the rights of the states not parties to it. The difficulty which compels the Master to rewrite the limitation was dispelled by this Court in *Arizona v. California*, 283 U.S. 423, 462 (1931): "As Arizona has

⁹This literal reading of § 4(a) by the Master conflicts with his "literal" construction of the limitation in the first paragraph. Since § 4(a) deals only with the "waters apportioned" by Article III(a) and "excess or surplus waters," the proposed tri-state compact in § 4(a) could dispose of *all* lower basin waters only if the Article III(b) waters are included in the "excess or surplus." The Master elsewhere frequently asserts that if the limitation is read literally California is excluded from Article III(b) waters which are not "excess or surplus." (Rep. 150, 168-69, 180 n.40, 194-95.) If so, would not the whole million acre-feet be available for appropriation by New Mexico and Utah as well as by Arizona and Nevada? This inconsistency demonstrates our contention that the Master strains the literal reading to achieve inequitable results and then rejects the express and specific reference in the limitation to the Compact in order to avoid the inequitable results created only by his strained reading.

¹The Master rejects his own argument by construing Articles III(a) and III(b) of the Colorado River Compact as limitations on appropriative rights (Rep. 149). So also as to the reference to California in the first paragraph of § 4(a) (Rep. 231). If he is correct, then clauses (1) and (2) of the abortive tri-state compact set forth in the second paragraph of § 4(a) of the Project Act, which name Arizona and Nevada, can also be no more than a limitation on their appropriative rights. California was surely not expected to sign a tri-state compact which amounted to a limitation on her but a grant to her rivals. The tri-state compact thus could not dispose of New Mexico's and Utah's water rights. It could only be a reciprocally imposed limitation on the appropriations of each of the three parties as against the other two parties.

made no such [interstate] agreement, the [Boulder Canyon Project] Act leaves its legal rights unimpaired."

If compacting states could effectively abridge the rights of noncompacting states, the upper basin would not have been concerned over Arizona's refusal to ratify the Compact. Yet this concern clearly existed² and was, as the Master recognizes, the motivating force for the limitation on California.³

The Master points out that Senator (now Judge) Bratton of New Mexico was "one of the principal architects of Section 4(a)" of the Project Act. The Master considers it "preposterous" that section 4(a) would divest all of New Mexico's lower basin rights with the active support of Senator Bratton. (Rep. 175.)⁴ The answer is simple: Senator Bratton must have believed—correctly—that clauses (1) and (2) of the tri-state compact to which New Mexico was not a party could not affect her rights. Otherwise clause (3), which insured Arizona the "exclusive beneficial consumptive use of the

²Rep. 22, 139, 165. See, e.g., *Hearings on H.R. 6251 and H.R. 9826 Before the House Committee on Irrigation and Reclamation*, 69th Cong., 1st Sess. (1926) at 95-112 (testimony of S. G. Hopkins, Interstate Stream Commissioner for Wyoming), and 120, 135-219 (testimony of Delph E. Carpenter, Interstate Rivers Commissioner for Colorado); H.R. REP. No. 1657, 69th Cong., 2d Sess., pt. 2, at 4 (1927) (minority views of Mr. Leatherwood of Utah).

³Rep. 165: "The Upper Basin feared that Arizona might not ratify, in which event California, unless limited, would be able to appropriate from the mainstream substantially all of the Lower Basin apportionment, leaving Arizona free to make further appropriations from the mainstream outside the Compact ceilings." (Emphasis added.)

⁴Senator Bratton announced that he was going to vote against the Hayden amendment to authorize this specific tri-state compact, even though it had been made permissive, not mandatory; he thought the states should be free to negotiate their own terms, without any suggestions from Congress. 70 CONG. REC. 470-71 (1928).

Gila River and its tributaries within the boundaries of said State,"⁵ would also cut off existing New Mexico rights. Senator Bratton, as an upper basin Senator, must have recognized that the Colorado River Compact could not affect the rights of Arizona unless she ratified the Compact. Therefore, Senator Bratton, as a lower basin Senator, must surely have recognized that a tri-state compact could not affect the rights of New Mexico which would not ratify that compact. It is only the contrary assumption—that a group of states may deprive another state of water rights without its consent—that creates the Master's dilemma: Either Senator Bratton failed to comprehend the plain meaning of the language used, or he was wantonly neglectful of New Mexico's interests. The choices are equally preposterous.

Indeed, no one has ever suggested that the La Plata River Compact, a two-state compact dividing the waters of that Colorado River tributary, had any effect upon the rights of the other five states having an interest in the Colorado River.⁶

The tri-state compact, authorized by the second para-

⁵Whatever else this language encompasses, it includes water which rises in Arizona Gila tributaries before these enter New Mexico. The San Francisco River is an example. Gila finding of fact 2, Rep. 336.

⁶The La Plata River Compact divided the flow between Colorado and New Mexico. This compact was negotiated in 1922 by Delph E. Carpenter of Colorado and Stephen B. Davis of New Mexico, both of whom were negotiators and signatories of the Colorado River Compact. The La Plata River Compact was signed at Santa Fe three days after the signing of the Colorado River Compact in that city; it was ratified by both states in 1923 and consented to by Congress in 1925 (43 Stat. 796 (1925)). The La Plata River Compact is reconfirmed and approved in article X of the Upper Colorado River Basin Compact (Ariz. Ex. 2 (Tr. 216)) consented to by Congress in 1949 (63 Stat. 31).

graph of section 4(a), would have been the most curious interstate compact ever negotiated. Although three states would have been signatories, it made an apportionment of water to only two of them—Arizona and Nevada. Furthermore, the failure to provide any water for any other state could not have been filled in by implication from the limitation on California, even assuming that the limitation could be converted to a grant. The limitation provision in the first paragraph of section 4(a) was required only in the event of Arizona's failure to ratify the Colorado River Compact. The tri-state compact was expressly conditioned (see clause (7)) on Arizona, California, and Nevada all ratifying the Colorado River Compact. It was *never* contemplated that the tri-state compact and the limitation on California would coexist.

However the language of the second paragraph is read, the acre-feet of the *limitation* specified in the first paragraph cannot be added to the acre-feet of the hypothetical *grant* specified in the second paragraph to Arizona and Nevada only. Consequently, if a tri-state compact had been entered into in the very words of section 4(a), second paragraph, and even if this gave 3.1 million acre-feet to Arizona and Nevada and one half of "excess or surplus" to Arizona, there would be a residue of 4.4 million acre-feet of III(a) water and one half of the "excess or surplus" available for use in California, New Mexico, and Utah. Since, as the Master points out, the first paragraph operates only as a limitation and not as a grant to California (Rep. 231), it cannot exclude New Mexico and Utah from sharing in this residue with California. The Master cannot have his argument both ways.

The conclusive effect which the Master attributes to the failure of the tri-state compact expressly to provide for New Mexico and Utah is incongruous in view of the quantity of water involved. The quantity of water necessary to supply the combined 1928 uses of New Mexico and Utah was insignificant. Their total annual consumptive use over the 1914-1945 period averaged less than 75,000 acre-feet.⁷ In contrast, in deducing his "contractual allocation scheme," the Master treats as *de minimis* the inflow from the Bill Williams River (Rep. 184) involving more water than required for those combined New Mexico and Utah uses.⁸

Article 7(g) of the Arizona 1944 contract (Rep. app. 402) expressly recognizes the rights of New Mexico and Utah to equitable shares of the water apportioned to the lower basin by the Compact and of the waters unapportioned by the Compact, and is expressly without prejudice to those rights. Although Arizona now contends that this provision of her contract is invalid (Rep. 201-02), the Master declares the contract to be valid and binding except for article 7(d) (Rep. 207, 237-47). Article 7(g) constitutes an important administrative construction by the Secretary as well as a practical construction by Arizona that the lower basin rights of New Mexico and Utah are relevant to, and unimpaired by, the Project Act. This construction is reinforced by the Secretary's report on the proposed

⁷Ariz. Ex. 77 (Tr. 3,787), table S4, at 13, cols. 5 (for New Mexico) and 6 (for Utah).

⁸Average annual Bill Williams inflow of 75,000 acre-feet was reported to Congress. See Calif. Ex. 26 (Tr. 4,972), table 6; *Hearings on S. 728 and S. 1274 Before the Senate Committee on Irrigation and Reclamation*, 70th Cong., 1st Sess. 508 (table 6) (1928). See Rep. 121 for historic inflow of Bill Williams River for 1914-1951 period, averaging 117,800 acre-feet per annum.

Central Arizona Project which he submitted to Congress in 1949. The Secretary, pursuant to interpretations then advanced by Arizona, deducted from Arizona's share of the Colorado River system waters 130,000 acre-feet for combined Utah and New Mexico lower basin uses, in accord with Arizona's contract.¹

2. Upper Basin Would Not Be Excluded From Surplus

The Master asserts that section 4(a), read literally, authorizes a compact which would "prohibit" upper basin states from using any of the surplus waters in the Colorado River basin (Rep. 171). The Master asserts that it is unlikely, particularly in view of Article III(f) of the Compact, that Congress intended to authorize Arizona and California to divide these waters between themselves and to leave nothing for the upper basin beyond its Article III(a) apportionment (Rep. 172). The Master concludes, therefore, that the limitation cannot be read literally to refer to the Compact.

For all of the reasons noted above in connection with lower basin rights of New Mexico and Utah, the upper basin would not and could not be excluded from the use of any water by any compact among Arizona, California, and Nevada.

Furthermore, the quantity of water which the upper states must let pass Lee Ferry to Lake Mead is controlled, not by the tri-state compact (however construed), but by the Colorado River Compact. The tri-state compact provides that it "shall be subject in all particulars" to the Colorado River Compact (clause (6)).

¹See Ariz. Ex. 71 (Tr. 310), at 151.

Rep. app. 383) and that it will "take effect upon the ratification of the Colorado River compact by Arizona, California, and Nevada" (clause (7), Rep. app. 383). No upper state can consume water which has already reached Lake Mead.

Article 7(b) (Rep. app. 401) of the Arizona contract provides for delivery of surplus waters only "to the extent such water is available for use in Arizona" under the Compact and the Project Act. Articles 7(e) and 7(f) (Rep. app. 401-02) expressly preserve the upper basin's rights to surplus waters by a "further equitable apportionment" pursuant to Articles III(f) and III(g) of the Colorado River Compact. In his report on the Central Arizona Project, the Secretary, pursuant to Arizona's contentions, recognized the upper basin's rights to share in surplus.²

3. *California Would Not Be Excluded From Use of More Than 4.4 Million Acre-Feet Per Annum Until Basin Uses Total 16 Million Acre-Feet Per Annum*

The Master asserts that if the section 4(a) limitation is read literally, California would be prohibited from consuming Colorado River water in excess of 4.4 million acre-feet per annum until the beneficial consumptive uses throughout the Colorado River basin totaled 16 million acre-feet per annum, a figure which the Master puts at about twice the present total basinwide

²*Ibid.* The report shows "total surplus to be allocated under the terms of art. III(f) of the Colorado River compact" to be 220,000 acre-feet per annum. Of this quantity, 55,000 acre-feet was earmarked for Arizona. Although the basis is not articulated in the report, it was evidently arrived at by dividing the surplus equally between the two basins (110,000 acre-feet to each); then, one half thereof (55,000 acre-feet) was "to be allocated to Arizona under Article III(f) of the compact."

consumptive use. (Rep. 172; see also Rep. 195-96.)

It is impossible to construe the Project Act, Limitation Act, or Compact to require California or any other state to allow water to go to waste if it is not used by others who have a prior or superior right thereto. Article III(e) of the Compact is explicit.^{2a} The Master recognizes this principle in his proposed decree which permits a state to use water which will not be used in another state to which it is apportioned.³ Thus, the Master himself refutes the faulty premise of this argument, that California may not use water which is apportioned for use elsewhere, but which is not now being used.

The problems which the Master poses need not exist. By a sensible reading, the "excess or surplus waters unapportioned by said compact" referenced in the limitation means all consumptive use from system water in the lower basin over and above 7.5 million acre-feet per annum of consumptive use.

C. Congress Did Not Exclude the Gila River System Waters From the Tri-State Compact Proposed in Section 4(a)

The Master asserts that clause (3) of the second paragraph of section 4(a) gives Arizona 2.8 million acre-feet from the main stream "in addition" to the ex-

^{2a}Article III(e) provides:

"The States of the Upper Division shall not withhold water, and the States of the Lower Division shall not require the delivery of water, which cannot reasonably be applied to domestic and agricultural uses." Rep. app. 373-74.

³Decree II(B)(8) (Rep. 349-50); see Rep. 314 n.4.

clusive use of the Gila River within her boundaries (Rep. 179). The Master also asserts that the first paragraph of section 4(a) must be read correlatively with the second, so that the Gila could not have been included in the first paragraph. The conclusion is that the first paragraph cannot be read literally to incorporate the Compact's systemwide concept which would include the Gila.

The Master's premise is wrong.

Clause (1) of the tri-state compact stated in the second paragraph of section 4(a) does not state that Arizona's 2.8 million acre-feet comes from the main stream. Clause (3) does not say that Arizona is entitled to the exclusive use of the Gila "in addition" to her 2.8 million acre-foot apportionment. The words "in addition" nowhere appear in the second paragraph. The Master has converted the "and" introducing clause (3) into the words "in addition." There are seven numbered clauses in the second paragraph, each after the first being introduced by the word "and". If each introductory "and" in that paragraph were read as "in addition" or "plus," much of the language of the paragraph would not make sense.

Even if the word "and" could be read as "in addition," the naming of the Gila River system is not the equivalent of naming all of the lower basin tributary systems. The Master would have us read "Gila River" as another instance of congressional shorthand, this time a code meaning "Gila River, Bill Williams River, Virgin River, Muddy River, Little Colorado River,

Kanab Creek, Johnson Creek, etc.”⁴ This construction not only violates the *expressio unius* maxim; it imputes absurd draftsmanship to Congress. Other provisions of the act make it clear that at the times when Congress wanted to designate tributaries, it knew how to draft language appropriate to reach that result.⁵

Clause (6) of the proposed tri-state compact provides (Rep. app. 383):

“[A]ll of the provisions of said tri-state compact shall be subject in all particulars to the provisions of the Colorado River compact”

The Article III(a) apportionment in the Compact extends to the Gila (Rep. 141-42), and inconsistencies, if any, in clauses (1) and (3) must give way.

In 1939 the Arizona Legislature passed an act to ratify a tri-state compact containing the provisions of the authorized tri-state compact recited in section 4(a) of the Project Act. However, it recited that “*in addition* to the water covered by paragraphs (b) and (c)

⁴See Calif. Ex. 7307 (Tr. 22,162) which gives, tabulated from Arizona evidence, “Average Annual Virgin Flow of Lower Colorado River Basin Tributaries for the Period 1914 to 1945 as Such Tributaries Enter the Main Stream.” The Gila averaged 1,403,600 acre-feet per annum, and all other lower basin tributary inflow averaged 1,493,900 acre-feet per annum, a total of 2,897,500 acre-feet per annum.

⁵The Project Act refers to “tributaries” in §§ 4(a) (second paragraph), 6, 13(b), 13(c) [three times], 13(d), and 15. In § 6 it directs the Federal Power Commission not to issue or approve permits or licenses “affecting the Colorado River or any of its tributaries, except the Gila,” giving the clearest indication that when it wanted to designate all tributaries, it said so, and when it wanted to designate the Gila alone, it also said so.

The Master states that “certain sections of the Project Act apply to the Colorado River System” not just to the “main-stream.” But he purports to explain that “in those sections Congress was dealing with problems which had system-wide application.” (Rep. 173 n.32.) This “explanation” restates his conclusion that the problem dealt with in 4(a) does not have systemwide application.

hereof," Arizona should have exclusive use of the Gila within its boundaries.⁶ (Emphasis added.) It also provided, very significantly, that it should be approved thereafter by Congress as well as by the states of California and Nevada.⁷ The subsequent consent of Congress would not have been required if this were the same tri-state agreement to which Congress had already consented in advance in the second paragraph of section 4(a). Arizona must have recognized that adding "in addition" changed the meaning, as we now contend, and therefore required the subsequent consent of Congress. In 1941 a bill in the Arizona Legislature to ratify the proposed Project Act tri-state compact without amendment passed the Senate but failed in the House.⁸ The 1941 bill by contrast did not require further consent by Congress, which had already consented to *this* tri-state compact in the second paragraph of section 4(a) of the Project Act.

The Master answers that if clause (3) merely assures to Arizona exclusive use of Gila waters within that state, clause (3) is redundant and useless because this result would follow even without clause (3). (Rep. 179 n.38.)⁹ This is completely wrong for at least three reasons:

(1) The Master is wrong about the physical facts. He says (*ibid.*):

"California had no diversion works as of 1928

⁶Calif. Ex. 1322 for iden. (Tr. 11,436) § 1, art. III(d), p. 5.

⁷*Id.* § 3, p. 7.

⁸Calif. Ex. 1323 for iden. (Tr. 11,436).

⁹The Master also asserts that the legislative history supports his interpretation that the Gila was allocated to Arizona in addition to the 2.8 million plus half of surplus. We discuss the legislative history *infra* pp. 110-24, particularly 120-21, 123-24.

capable of diverting Gila River water for use in that state nor were there any contemplated at that time. Indeed, California has not used Gila River water since 1928”

It can be conclusively and irrefutably demonstrated from the Master's Report and the record that Imperial Irrigation District's headworks remained below the mouth of the Gila River from a date before 1907 to 1941 and were capable of diverting, and necessarily diverted, Gila River inflow for use in California. It was not until 1942, when the All-American Canal went into full operation, that all of Imperial's diversions were made at Imperial Dam above the mouth of the Gila.¹ Congress also had been fully informed during the Project Act hearings and debates that California had works capable of diverting the Gila River inflow.² As of 1928,

¹Compare the Master's accurate statement at 54-55 of the Report: "Water deliveries from the Colorado River to the Imperial Valley were first made at the turn of the century and, over the years, several diversion points in both the United States and Mexico were employed. In 1907 water was first diverted at Hanlon Heading into the Alamo Canal, which lay partly in Mexico and entered the United States near Mexicali. In 1918 a new diversion point, Rockwood Gate, went into operation upstream from Hanlon Heading and remained the primary diversion point until the All-American Canal was constructed. Construction of the canal was commenced in 1934. However, because of difficulties in the operation of Imperial Dam, which was dedicated in 1938 and which is the diversion point for the canal, service through the All-American Canal was delayed until 1940 and full service did not occur until February 1942. After this date no further deliveries were made through the Mexican works."

The mouth of the Gila is above both of Imperial's diversion points mentioned, Hanlon Heading (Calif. Ex. 121 (Tr. 7,004)) and Rockwood Gate (Calif. Ex. 120 (Tr. 6,991)).

²E.g., *Hearings on H.R. 6251 and H.R. 9826 Before the House Committee on Irrigation and Reclamation*, 69th Cong., 1st Sess. 209-10 (1926) (Delph E. Carpenter); 70 CONG. REC. 335 (1928) (Sen. Phipps).

the Gila made substantial contributions to the main stream.³

(2) Even if the Master's facts were correct and history were rewritten, his conclusion does not follow that clause (3) as we construe it would be redundant. However construed, the allocations in clauses (1) and (2) would not assure the Gila uses to Arizona, as did clause (3).

(3) Finally, such language, even if redundant, would not be useless. Arizona's Senator Hayden, author of the language,⁴ wanted to doubly assure his constituents of protection for the Gila since the Gila's inclusion in the Compact's systemwide allocation was the rock on which Arizona's Compact ratification had foundered,⁵ as Senator Hayden explained to the Senate in debate with Senator Johnson.⁶

In denying our claim that Arizona's main stream rights are affected by the extent of her Gila uses, the Master relies upon the assertion that California now has no appropriative rights to Gila waters.⁷ The Master misses the point. California has the same interest in the Gila as the upper basin has in lower basin tributaries although the upper basin cannot use or affect the lower

³See Rep. 122. During the period 1903-1920, it contributed to the main stream a flow averaging in excess of 1,000,000 acre-feet annually. Ariz. Ex. 45 (Tr. 254), at 219, quoted in Calif. Exhibits, vol. 24.

⁴See Calif. Ex. 2014 (Tr. 11,173).

⁵See, *e.g.*, 70 CONG. REC. 335-36 (1928).

⁶70 CONG. REC. 467 (1928).

⁷Rep. 229-30.

basin tributary supply. (See Rep. 142-43.)⁸ Tributary uses must be taken into account in determining the magnitude of surplus, hence the interbasin impact of the Mexican burden under Article III(c).⁹ The Compact allocates benefits; hence, it is reasonable to include in the Compact interbasin accounting benefits from the lower basin tributaries. Similarly, it is reasonable to include in the limitation accounting Arizona's benefits from the Gila.

It is a well-established principle of water law that an upstream appropriator on the main stream can enjoin a junior appropriator from taking water from a downstream tributary, if that water is necessary to supply a main stream right further downstream which is

⁸Senator Ashurst argued with Wyoming's Governor Emerson, a Colorado River Compact negotiator, that the Gila is of no interest to the upper basin. Governor Emerson told him; "I am not able to see your argument in regard to the Gila River—I think it is as much a part of the Colorado River system as our [Wyoming's] Green River." *Hearings Pursuant to S. Res. 320 Before the Senate Committee on Irrigation and Reclamation*, 69th Cong., 1st Sess. 765 (1925).

⁹The Gila is above Mexico which is senior to all other rights on the river under the Mexican Water Treaty. (59 Stat. 1219 (1945); Ariz. Ex. 4 (Tr. 220).) The Mexican Treaty may be satisfied "from any and all sources" in the Colorado River system (Ariz. Ex. 4 (Tr. 220), art. 10), which obviously include the Gila. This does not mean that waters must be released from reservoirs on the Gila to flow to Mexico. In calculating the magnitude of Arizona's contribution to the Mexican burden the benefit she derives from the entire Colorado River system, including the tributaries, should be taken into account, but her contribution, thus calculated, should in fact be made from her share of the main stream, simply as a commonsense water conservation measure. Clause (4) of the tri-state compact set forth in the second paragraph of § 4(a), proposed by Arizona's Senator Hayden (Calif. Ex. 2014 (Tr. 11,173)), recognizes this principle. Clause (4) provides that Arizona would bear *one half* of the treaty burden, all from her share of the main stream, if the Gila should be released from that burden. The Master reduces this to 37 $\frac{1}{3}$ % (28/75). See *infra* pp. 223-25.

senior to both upstream rights.¹⁰ Mexico, downstream from all United States uses, has the senior right by treaty to the waters of the Colorado River system. See Decree art. II(A) (Rep. 347).

II. THE LANGUAGE OF THE PROJECT ACT REQUIRES THE LIMITATION TO BE GIVEN ITS NATURAL AND LITERAL MEANING TO INCORPORATE THE COLORADO RIVER COMPACT

A. It Is Unreasonable To Reject the Project Act's Express and Specific Incorporation of the Colorado River Compact

A statute must be construed to produce a harmonious whole, to avoid conflicts between various provisions of the statute, and to give effect, if possible, to all provisions of the act.¹

“There is need to keep in view also the structure of the statute, and the relation, physical and logical, between its several parts.”²

The Master asserts that Congress intended section 4(a) to relate solely to “mainstream” waters, that is, Lake Mead and the main Colorado River below Lake Mead within the United States, because these are the waters controlled by Hoover Dam (Rep. 173-74). Out of the entire statutory language the Master has found only two words in section 4(a) to seize upon in support of this thesis: The limitation on California is on our “aggregate annual consumptive use . . . of

¹⁰LONG, IRRIGATION § 135 (2d ed. 1916); KINNEY, IRRIGATION § 649, at 1,139 (2d ed. 1912).

¹*E.g.*, 2 SUTHERLAND, STATUTORY CONSTRUCTION 336-39, 342-43 (3d ed. Horack 1943).

²Cardozo, J., in *Duparquet Huot & Moneuse Co. v. Evans*, 297 U.S. 216, 218 (1936).

water of and from the *Colorado River*.^{2a} Those two emphasized words do not, as the Master asserts, point in the direction of relating the limitation solely to waters in Lake Mead and below. (See Rep. 174.) Those two words in section 4(a) do not refer to a segment of the Colorado River any more than do those same two words in section 19.³

When Congress intended to refer to "water stored" in Lake Mead, Congress said so expressly (sections 1, 5, and 8). If Congress had intended to restrict the limitation in section 4(a) to the waters controlled by Hoover Dam, Congress would also have said so expressly. In section 4(a), Congress did *not* say so expressly; on the contrary, it expressly incorporated the systemwide operation of the Compact.

The two phrases in the first paragraph of section 4(a)—[1] "waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact" and [2] "excess or surplus waters unapportioned by said compact"—naturally and literally refer to the Colorado River Compact. The "natural reading"⁴ of the entire Project Act compels the conclusion

^{2a}California must physically take its share of Colorado River system water from the main Colorado River (which of course is fed by tributaries) because we have no access to any lower basin tributary systems.

³Section 19 (Rep. app. 395) authorizes supplemental compacts among the seven named Colorado River basin states for comprehensive development of "the Colorado River." Wyoming and New Mexico are included although the Colorado River main stream does not flow anywhere near these states.

⁴The Master rejects our contention that if Arizona effectively ratified the Compact in 1944 the limitation is no longer binding on California because "the *natural reading* of the language of the statute does not support [California's] contention." (Rep. 166; emphasis added.) We believe that we should have the benefits, if we are to have the detriments, of a natural reading of the statute.

that Congress meant what it said each of the 27 times it referred to the Colorado River Compact in the Project Act.⁵ The Master's construction—23 of Congress' 27 references to the Compact mean Compact, but four do not⁶—must be rejected because there is no rational basis for any such distinction. As we have already pointed out (*supra* pp. 80-100), there is no reason why the limitation's reference to the Compact cannot be given its natural and literal meaning.

The Master's construction would create serious inconsistencies within the provisions of the Project Act itself. No one challenges that the numerous other references to the Compact in the Project Act—in the title and in sections 1, 4(a) (other than the four exceptions created by the Master), 6, 8, 12, 13, 18, and 19—refer to the Colorado River Compact. For example, section 4(a), first paragraph, and section 13(a), which refer to Article XI of the Compact (requiring its seven-state ratification), mean Article XI of the Compact. Section 4(a), second paragraph (clause (4)), which refers to Article III(c) of the Compact, means Article III(c) of the Compact. Section 6, which refers to Article VIII of the Compact, means Article VIII of the Compact. By excising the express and precise reference to the Compact in two phrases in the limitation, the Report has achieved the anomalous distinction of creating inconsistency by avoiding the natural and literal meaning

⁵Title and §§ 1, 4(a) (both paragraphs), 6, 8, 12, 13, 18, and 19 (Rep. app. 379-95).

⁶The two Limitation Act phrases which the Master concludes do not refer to the Compact are substantially repeated in the second paragraph of § 4(a), clauses (1) and (2), respectively. These are the four places in the Project Act out of the 27 references to the Compact (14 times in § 4(a)) that Congress, according to the Master, said "compact" but did not mean Compact.

of the statute. The section 4(a) express reference to Article III(a) of the Compact must mean Article III(a) of the Compact just as surely as the express reference in section 13(a) gave congressional consent to the Colorado River Compact and not to some other document, and waived the provisions of Article XI and not of some other article.

In dealing with broad conceptual matters, Congress may have some difficulty in choosing the words to describe its intention.⁷ But Congress encountered no such difficulty in referring to the "Colorado River compact," to "said compact," and to "paragraph (a) of Article III." Such a precisely measured term, like Article III(d) of the Compact, "presents no questions of interpretation" (Rep. 144).

Why did Congress in section 4(a) use the words "paragraph (a) of Article III of the Colorado River compact" and the words "said compact" if Congress did not intend to refer to the Compact? The Master neither asks that question nor gives an answer. His figure "7,500,000 acre-feet" cannot be discovered from the first paragraph of section 4(a) unless reference is made to Article III(a) of the Compact.

The Master cannot escape the plain import of Congress' chosen words. The Master has not and cannot establish that Congress used the words "Colorado River compact" and "said compact" as a private code with a special usage only in section 4(a) of the Project Act, once in the first paragraph and once in the second. Because the Master's construction does violence to the

⁷See Freund, *The Use of Indefinite Terms in Statutes*, 30 Yale L.J. 437-38 (1921), pointing out that Congress, by its choice of words, can control, to some extent, the precision or certainty intended in a statute.

words chosen by Congress, the Master's construction must be rejected.

If the Master is right that the limitation's express reference to the Compact does not mean the Compact, Congress did not merely use what the Master calls "inappropriate" language (Rep. 173); Congress was guilty of woefully bad and misleading draftsmanship. Congress wholly failed to understand express and unmistakable language of the Compact—that the lower basin apportionment is from the Colorado River system, expressly defined as the Colorado River and its tributaries—explained and reexplained through successive Congresses.

Even if it were clear that Congress erred so egregiously, the Master's conclusion does not follow. Congress provided for the possibility that it might have misread the Compact. Congress did so in section 8(a) of the Project Act:

"The United States, its permittees, licensees, and contractees, and all users and appropriators of water stored, diverted, carried, and/or distributed by the reservoir, canals, and other works herein authorized, shall observe and be subject to and controlled by said Colorado River compact in the construction, management, and operation of said reservoir, canals, and other works and the storage, diversion, delivery, and use of water for the generation of power, irrigation, and other purposes, *anything in this Act to the contrary notwithstanding, and all permits, licenses, and contracts shall so provide.*" (Emphasis added.)

What is "in this Act to the contrary notwithstanding-

ing"? The closest scrutiny discloses nothing. But the possibility of something "to the contrary" was nevertheless provided for, and throughout the act are riveted provisions whose only purpose is to say: Should inconsistency between this act and the Compact be discovered, the Compact controls. The Limitation Act section concludes: "such uses always to be subject to the terms of said compact." The tri-state compact authorization concluded: "and (6) that all of the provisions of said tri-State agreement shall be subject in all particulars to the provisions of the Colorado River compact, and (7) said agreement to take effect upon the ratification of the Colorado River compact by Arizona, California, and Nevada."

The English language does not contain words clearer than those which Congress used, again and again, to say that the Compact is to control in the event of inconsistency.

In *Arizona v. California*, 292 U.S. 341 (1934), this Court, through Mr. Justice Brandeis, announced that the limitation on California means what it says (292 U.S. at 357):

"Nor does Arizona show that Article III(b) of the Compact is relevant to an interpretation of § 4(a) of the Boulder Canyon Project Act upon which she bases her claim of right. It may be true that the Boulder Canyon Project Act leaves in doubt the apportionment among the states of the lower basin of the waters to which the lower basin is entitled under Article III(b). But the Act does not purport to apportion among the states of the lower basin the waters to which the lower basin is entitled under the Compact. *The*

Act merely places limits on California's use of waters under Article III(a) and of surplus waters; and it is 'such' uses which are [quoting from section 4(a)] 'subject to the terms of said compact.'" (Emphasis added.)

In short, the Limitation Act does incorporate the Compact by reference.⁸

B. Article III(b) Waters Are Included in the "Excess or Surplus" Available to California if the Project Act Is "Read Literally"

The Master says that if the phrase "excess or surplus waters unapportioned by said compact" is "read literally," California has no share in the uses specified in Article III(b) of the Compact (Rep. 168-69). He rejects this result (Rep. 194). Then, relying on the Senate debates (Rep. 194-200), he construes this phrase to mean "all consumptive use above the first 7.5 million acre-feet of mainstream water in the Lower Basin, in the United States, in one year." (Rep. 200.)

Although the Compact provisions referenced by this

⁸Our offer of proof included extracts from Arizona's brief in the *Perpetuation of Testimony* case which demonstrate conclusively that the future suit for which Arizona sought the testimony to be perpetuated was a suit on California's undertaking in the Limitation Act. Calif. Ex. 7504 for *iden.*, Tr. 22,760. In presenting the offer, California counsel called attention of the Master to the emphasized sentence from the opinion quoted in text:

"I believe, your Honor, that this can be fairly characterized as an alternative holding, Mr. Justice Brandeis' opinion, and if that is so, your Honor's Draft Report is asking the court *sub silentio* to overrule a prior decision of the Court."

The Master's response: "It may very well be." (Tr. 22,789.)

phrase are not precisely identified⁹ (*supra* pp. 72-73), a literal reading of the limitation's reference to the Compact does not preclude California from the Article II(b) waters. The Compact, Project Act, and California Limi-

⁹The Report, however, states or implies at least three contradictory "literal" meanings of phrase [2], under one of which California would share in III(b) waters:

(1) Article III(a), (b), and (c) waters are apportioned by the Compact; therefore, phrase [2] refers to all system waters in excess of those apportioned waters. See Rep. 194: "Thus by a *literal Compact reading*, the phrase ['excess or surplus waters unapportioned by said compact'] would mean System water in excess of the aggregate of the apportionments of Article III(a), (b) and (c)." (Emphasis and bracketed words added.) This literal meaning is derived from Article III(f) which refers to "waters of the Colorado River System unapportioned by paragraphs (a), (b) and (c)" of Article III. Cf. Rep. 194.

(2) Article III(a) and (b) waters are apportioned by the Compact; therefore, phrase [2] refers to all system waters in excess of those apportioned waters. See Rep. 168: "Thus *read literally*, the phrase limiting California to one-half of any 'excess or surplus waters unapportioned by said compact' means that California may consume half of any water above that referred to in Article III(a) and (b)." (Emphasis added.) This "literal" reading is derived from Article III(c) which refers to the "waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b)" of Article III. Cf. Rep. 194.

(3) Article III(a) waters are apportioned by the Compact; therefore, phrase [2] refers to all lower basin system waters in excess of those apportioned waters. This definition results by necessary implication from the Master's statements at Rep. 170-71. The Master asserts that if the two paragraphs of § 4(a) are read together, Congress consented in advance to a tri-state compact which provided that out of the first 7.5 million acre-feet of consumptive use, 4.4 million is allocated to California, 2.8 million is allocated to Arizona, and 300,000 is allocated to Nevada; and any excess is divided half to California and half to Arizona. The Master then concludes (Rep. 171): "Thus, a *literal reading* of Section 4(a) would authorize Arizona, California and Nevada to enter into a compact for the division among themselves of *all of the Lower Basin system water*, including the water being used by New Mexico and Utah." (Emphasis added.) This conclusion cannot follow unless "excess or surplus" waters include all lower basin water above III(a) waters, including III(b) waters.

tation Act all treat Article III(b) waters as "excess . . . waters unapportioned" by the Compact, in which California may share.

The Master is unable to explain "whatever may account for [the] segregation [of Article III(b)] as a separate provision of the Compact" (Rep. 147). Arizona explained very well in her brief in *Arizona v. California*, 283 U.S. 423 (1931), the reason why Article III(b) uses a deliberate circumlocution to avoid the word "apportioned," and why Article III(b) appears at all, instead of a quantity of 8,500,000 acre-feet in Article III(a) for the lower basin:¹

"The difference in language between paragraphs (a) and (b) is plain, and the difference in meaning is clear. Paragraph (b) does not *apportion in perpetuity*, as does paragraph (a), any beneficial use of water. It is very careful not to do this. It is to be read with paragraph (c) and relates solely to the method of sharing between the basins any future Mexican burden which this Government might recognize. This burden is to be satisfied first out of 'surplus' waters, and surplus waters are defined, not as surplus over quantities 'apportioned,' but as surplus over quantities 'specified in paragraphs (a) and (b).' Any deficiency remaining is to be borne equally by the two basins. Thus the Lower Basin, which without paragraph (b) might use water in excess of its apportionment without acquiring any exclusive right in perpetuity thereto, is enabled to retain such uses to the extent of 1,000,000 acre-feet per annum against the first incidence of the Mexican burden. There-

¹Calif. Ex. 2043 (Tr. 12,379), pp. 2-3.

after it is entitled to require the Upper Basin to share from its apportionment equally in the satisfaction of any deficiency. In other words, all that paragraphs (b) and (c) accomplish is to require the Upper Basin to reduce its apportionment in favor of Mexico before the Lower Basin is required to do so, the Lower Basin being entitled to contribute first, to the extent of 1,000,000 acre-feet, water which it may have used but to which it has no exclusive right in perpetuity—that is, water not apportioned to it. The water apportioned is that to which exclusive beneficial use in perpetuity is given in paragraph (a), less any deductions which may have to be recognized as provided in paragraphs (b) and (c).”²

This accords with the report of Delph Carpenter, Colorado River Commissioner of the State of Colorado,³ which was printed in the *Congressional Record*⁴ during the debates on the Project Act:⁵

“The repayment of the cost of the construction of necessary flood-control reservoirs for the protection of the lower river country, probably will result in a forced development in the lower basin. For this reason a permissible additional development in the lower basin to the extent of a beneficial consumptive use of one million acre-feet, was recognized in order that any further apportionment of surplus waters might be altogether avoided or at least delayed to a very remote period. *This right*

²Arizona’s counsel were Clifton Mathews, now a Senior Circuit Judge of the Ninth Circuit Court of Appeals, and Dean Acheson, subsequently Secretary of State.

³Ariz. Ex. 46 (Tr. 255).

⁴70 CONG. REC. 577-86 (1928).

⁵Ariz. Ex. 46 (Tr. 255), reproduced in Calif. Exhibits, vol. 24, pp. A77, A82.

of additional development is not a final apportionment. This clause does not interfere with the apportionment to the upper basin or with the right of the States of the upper basin to ask for further apportionment by a subsequent commission." (Emphasis added.)

III. THE LEGISLATIVE HISTORY OF THE PROJECT ACT SUPPORTS THE NATURAL AND LITERAL MEANING OF THE LIMITATION'S INCORPORATION OF THE COLORADO RIVER COMPACT.

Not one word in the legislative history affirmatively supports the Master's thesis that Congress intended to relate the limitation solely to "mainstream" waters in Lake Mead and below.

Some members of Congress correctly understood that "III(a) waters" in the Compact include the main stream and all tributaries; some apparently thought, at times, that only the Gila was excluded; some apparently thought, at times, that the "III(a) waters" were identified with the flow at Lee Ferry. But not one Senator or Representative departed from the Compact or identified the limitation, as the Master does, with the waters in Lake Mead and the main Colorado River below. No one in Congress, or anywhere else for over 30 years after, until the Master proposed this "novelty,"⁶ ever so suggested.

The Master's segregation of the Colorado River at Lake Mead into two rivers is based solely on an inference spelled out in his Report: Hoover Dam controls

⁶Tr. 22,762.

only "mainstream" water; it cannot control the "tributary" water, including the main stream between Lee Ferry and Lake Mead.^{6a} Therefore, by inference, section 4(a) of the Project Act applies only to the "mainstream." (Rep. 173-74.) This inference cannot stand in the face of the limitation's express reference to the Compact, which applies to all Colorado River system waters in the lower basin. Moreover, this inference erroneously attributes legal significance to the location of Hoover Dam and Lake Mead. The objective of Congress at all times has been a comprehensive basin-wide plan of river development⁷ which has gone forward since the completion of Hoover Dam in 1935.⁸ Black

^{6a}The Master's hydrology and water law are wrong. Hoover Dam can affect uses from the main stream and tributaries above Lake Mead, by making natural flow previously appropriated below Lake Mead available for appropriation above Lake Mead to the extent that downstream appropriators are satisfied from flood flows conserved by the reservoir. Glen Canyon Dam, below all points of upper basin use, serves a similar purpose for upper basin users who are enabled to meet the Compact's delivery obligations from stored water in Glen Canyon reservoir, thus making additional natural flow above the reservoir available for use in the upper basin.

⁷This purpose is manifested in Project Act title and §§ 15, 16, and 19 (Rep. app. 379, 394-95). See S. REP. No. 592, 70th Cong., 1st Sess., pt. 1, at 27 (1928), which is Calif. Ex. 203 (Tr. 7,715).

⁸Davis Dam, located 67 miles below Hoover Dam, was completed about 1950; it "implements regulation of releases at Hoover Dam into the seasonal pattern required by downstream irrigation and domestic users." (Rep. 33.) Parker Dam, 88 miles farther downstream, was completed about 1938; it "regulates the flow of the Bill Williams in excess of local uses in Arizona." (Rep. 33-34.) The Colorado River Storage Project Act of 1956 (70 Stat. 105, 43 U.S.C. §§ 620-620o (1958)), authorizes construction of four storage reservoirs in the upper basin including Glen Canyon Dam, which is almost equivalent to another Hoover Dam. Closure of Glen Canyon Dam is scheduled for 1962 (Tr. 21,351-52), and two other upper basin storage reservoirs (Navajo Dam and Flaming Gorge Dam) are under construction.

Canyon, Boulder Canyon, Bridge Canyon, and Glen Canyon were all proposed in Congress as possible sites for the first high dam, which would be authorized by the Project Act.⁹ Congress authorized the Secretary to choose between Boulder Canyon and Black Canyon,¹ some 20 miles apart, as the location of Hoover Dam, narrowing the choice to these two sites, not for legal reasons, but for engineering and economic reasons. The dam had to be located at a place where it would provide adequate river regulation and flood and silt control. Yet the dam would have to be located close enough to major markets in southern California for power production to repay the cost of the dam.² Furthermore, projects to divert from the river between Lee Ferry and Lake Mead for use in both Arizona and California were under active consideration before and after 1928.³ Hoover Dam's location could have no legal significance in connection with the limitation on California.

A. The Limitation's Incorporation of the Compact Is Purposeful and Rational

The Project Act manifests Congress' purpose to subjugate all system waters to the Compact and to protect

⁹E.g., J. G. Scrugham (Governor of Nevada, previously Nevada's Compact Commissioner, subsequently Senator from Nevada), as special adviser to the Secretary of the Interior, "Report on the Development of the Colorado River Basin" (Dec. 16, 1927), *Hearings on H.R. 5773 Before the House Committee on Irrigation and Reclamation*, 70th Cong., 1st Sess. 469, 514, 517-20 (1928); Senator Pittman, 68 CONG. REC. 4406-10, 4412, 4414 (1927); Senator Johnson, 67 CONG. REC. 12625 (1926).

¹Project Act § 1 (Rep. app. 379).

²S. REP. NO. 592, 70th Cong., 1st Sess., pt. 1, at 9-10 (1928) (Calif. Ex. 203 (Tr. 7,715)); H.R. REP. NO. 918, 70th Cong., 1st Sess., pt. 1, at 6-8 (1928); F. E. Weymouth, *Hearings Pursuant to S. Res. 320 Before the Senate Committee on Irrigation and Reclamation*, 69th Cong., 1st Sess. 474, 480-81 (1925), quoted at 68 CONG. REC. 4309, 4311 (1927), by Senator Oddie of Nevada.

³See *infra* pp. 124-27.

the upper basin apportionment thereunder.⁴ The reasons were identical with those which the Master finds to support the "language of the Compact that subjugates both mainstream and tributaries to its rule." (Rep. 143.)

To achieve this purpose, the limitation on California was employed by Congress in the Project Act to help make a six-state compact acceptable to the upper basin if Arizona would not ratify. The Master correctly identifies the reason (Rep. 165):

"Absent seven-state ratification of the Compact, the Upper Basin required protection against appropriations in the Lower Basin in excess of the Compact apportionment. The Upper Basin feared that Arizona might not ratify, in which event California, unless limited, would be able to appropriate from the mainstream substantially all of the Lower Basin apportionment, leaving Arizona free to make further appropriations from the mainstream outside the Compact ceilings. The limitation on California left a sufficient margin for exploitation by Arizona so as to secure the Upper Basin against

⁴For example, see the following provisions of the Project Act (Rep. app. No. 3): The title states a basic purpose of the act to be "the approval of the Colorado River compact." Section 1 authorizes construction of works "subject to the terms of the Colorado River compact." Section 6 specifies, as part of the second priority, that Hoover Dam and Lake Mead be operated for "satisfaction of present perfected rights in pursuance of Article VIII of said Colorado River compact." Sections 8(a) and 13(b) and (c) subject the United States and all water users to the Compact. Section 13(a) gives the constitutionally required consent of Congress to the Compact. Section 19 consents to negotiation of compacts "supplemental to and in conformity with the Colorado River compact."

See S. REP. No. 592, 70th Cong., 1st Sess., pt. 1, at 14-16 (1928) (Calif. Ex. 203 (Tr. 7,715)); H.R. REP. No. 918, 70th Cong., 1st Sess., pt. 1, at 13-15 (1928).

undue encroachment by the nonratifying state."

Using Compact terminology to solve this Compact problem is the most reasonable construction to give to the limitation. By this construction Congress could simply, quickly, and accurately determine that the limitation accompanying a six-state agreement would afford to the upper basin substantially the protection of a seven-state agreement.

Congress clearly intended the limitation to incorporate the Compact, whatever it may mean. This was the overriding intent of Congress regardless of any individual Senator's understanding or misunderstanding of the meaning of the Compact.⁵ Congress must have understood the systemwide scope of the Compact.⁶ Furthermore, from 1923 through 1928, the text of the Com-

⁵For the standard of interpretation contemplated by Congress, see the discussion between Senator Bratton and Senator Pittman. (70 CONG. REC. 469-70 (1928), quoted *infra* pp. 122-23.)

⁶Section 13(a) of the Project Act, which gives the constitutionally required congressional consent to the Compact, must be read as though the language of the Compact is set forth therein *in haec verba*. The Constitution (art. I, § 10, cl. 3) requires congressional consent to an interstate compact so that Congress may protect the national interest by refusing to consent to a compact which is not in the best interests of the Nation. See *Florida v. Georgia*, 58 U.S. (17 How.) 478, 494 (1855); Frankfurter & Landis, *The Compact Clause of the Constitution—A Study in Interstate Adjustments*, 34 YALE L.J. 685, 694-95 (1925); ZIMMERMANN & WENDELL, *THE INTERSTATE COMPACT SINCE 1925*, at 57 (1951); THURSBY, *INTERSTATE COOPERATION* 67-69 (1953). In order to do so, Congress must be presumed to know the terms of the Compact and to understand them.

compact was reported to Congress numerous times,⁷ and its "unmistakable language" (Rep. 143) clearly reveals its systemwide application—to main stream and tributaries in the lower basin. (Rep. 142-44.) On numerous occasions during that period, the systemwide application of the Compact was authoritatively reported or explained to Congress.⁸ Thus, there is no possibility that Congress did not mean Compact when it said Compact. There is no reason to reject the natural and literal meaning of Congress' words.

It is neither necessary nor sensible to read the limitation, particularly in view of its purpose, by ignoring its express reference to the Compact and by applying that limitation solely to the "mainstream," Lake Mead and below, a body of water which is completely foreign to any classification defined in or dealt with by the Com-

⁷Rep. Hayden, Ariz., 63 CONG. REC. 472-73 (1922); H.R. 13480, 67th Cong., 4th Sess. § 1, inserted in the *Congressional Record* by Rep. Hayden, 64 CONG. REC. 2725-26 (1923); Herbert Hoover, H.R. Doc. No. 605, 67th Cong., 4th Sess. 8-12 (1923) (Ariz. Ex. 53 (Tr. 259)); Hoover, *Hearings on H.R. 2903 Before the House Committee on Irrigation and Reclamation*, 68th Cong., 1st Sess. 38-41, 41-44, 47-50 (1924); Sen. Ashurst of Arizona, *Hearings on S. 727 Before the Senate Committee on Irrigation and Reclamation*, 68th Cong., 2d Sess. 313-15 (1925); Delph E. Carpenter, *Hearings Pursuant to S. Res. 320 Before the Senate Committee on Irrigation and Reclamation*, 69th Cong., 1st Sess. 315-18 (1925); H.R. REP. No. 1657, 69th Cong., 2d Sess., pt. 1, at 26-29 (1926); H.R. REP. No. 918, 70th Cong., 1st Sess., pt. 1, at 32-34 (1928); Sen. Bratton, New Mexico, 70 CONG. REC. 324-25 (1928); Carpenter report, quoted *id.* at 579-80.

⁸*E.g.*, Herbert Hoover, 64 CONG. REC. 2710-11 (1923) (answers to questions 4, 6, and 8 of questionnaire on Colorado River Compact (Ariz. Ex. 55 (Tr. 260))); Delph E. Carpenter, *Hearings on H.R. 6251 and H.R. 9826 Before the House Committee on Irrigation and Reclamation*, 69th Cong., 1st Sess. 208-10 (1926); Sen. Johnson, Calif., 70 CONG. REC. 466 (1928).

pact. The Master's construction⁹ defeats the conceded purpose of the limitation to leave "a sufficient margin for exploitation by Arizona so as to secure the Upper Basin against undue encroachment by the nonratifying states" (Rep. 165). (See *supra* pp. 113-14.) Bridge Canyon, above Lake Mead, was an alternative diversion point considered for Metropolitan Water District's Colorado River Aqueduct; such plans were known to Congress. (*Infra* pp. 124-27.) Under the Master's construction of the limitation, a Metropolitan diversion at Bridge Canyon (above the "mainstream") would provide water to California in addition to the quantities specified in the limitation. This would increase California's rights to lower basin waters by the amount of the Bridge Canyon diversion and decrease in like amount the quantity available to a nonratifying Arizona from the main Colorado River in the lower basin. The upper basin congressmen could not have intended that their protection under the limitation should depend upon the choice of diversion points for California projects.

Furthermore, the Master's reading would be egregiously unfair to California. Under the Master's recommended decree, Arizona, Nevada, New Mexico, and Utah uses on all lower basin tributaries are ignored. But under the Colorado River Compact, which the Master properly construes to include lower basin tributaries (Rep. 142-44), tributary uses in these four lower basin states diminish the rights which the lower division states

⁹Rep. 173: "Thus I hold that Section 4(a) of the Project Act and the California Limitation Act refer only to the water stored in Lake Mead and flowing in the mainstream below Hoover Dam, *despite the fact* that Article III(a) of the Compact deals with the Colorado River System, which is defined in Article II(a) as including the entire mainstream and the tributaries." (First emphasis added.)

(Arizona, California, and Nevada) have under Article III(c) of the Compact to require states of the upper division (Colorado, Utah, New Mexico, and Wyoming) to supply water to satisfy the Mexican Treaty, because these uses on lower basin tributaries augment the quantities for which the lower basin is accountable in determining the obligation of the upper division states to deliver water in addition to that required by Article III(d).

In other words, in consequence of the Master's severing the Compact from the limitation, California loses the tributary issue twice: (1) In lower division (Arizona, California, and Nevada) versus upper division (Colorado, Wyoming, New Mexico, and Utah), tributaries are *included*, to California's disadvantage, by reducing the contribution to the Mexican burden which the lower basin may demand at Lee Ferry, thus increasing California's portion of the Mexican burden. (2) In *Arizona v. California*, tributary uses in Arizona and Nevada are *excluded*, again to California's disadvantage, in computing the quantity of the total claims of those two states which may be asserted against the "mainstream" in competition with California's share. It is unreasonable almost to the point of absurdity that any state would on the same day make two such bad and inconsistent bargains with respect to lower basin tributaries, one by enacting the Limitation Act, the other by ratifying the Compact. That is the result, however, of the "patentable novelty" which rewrites the words of one bargain—the Limitation Act.

If the Court decides not to construe the limitation consistently with the Compact, then it should construe the Compact consistently with the limitation.

B. Senator Phipps, Author of the Limitation and Chairman of the Reporting Committee, Made His Intention To Refer to the Compact Unmistakable

A principal reason given by the Master for reading the Colorado River Compact out of the limitation is that the importation of Compact concepts flies "in the face of every expression of intent made by any Senator who had anything to do with the legislation." (Rep. 180.) This assertion is completely wrong. The authoritative legislative history of the first paragraph of section 4(a) supports only the conclusion that the word "Compact" was inserted in phrases [1] and [2] of the limitation purposefully, intentionally, and deliberately.

Senator Phipps, chairman of the reporting committee, made this abundantly clear on the Senate floor when he perfected the language of the limitation which he had offered as an amendment to the act. At the time Senator Phipps offered his perfecting amendment, the limitation—phrase 1—referred simply to "the waters apportioned to the lower basin States by the Colorado River compact."¹ Senator Phipps made his intention unmistakable in offering his perfecting amendment:²

"Referring to the amendment which is now before the Senate, *in order to remove any possible misunderstanding regarding the 4,400,000 acre-feet of water*, I desire to *perfect* the amendment by inserting on page 3, line 4,³ after the word 'by' the words 'paragraph (a) of article 3 of,' so that it will show that that allocation of water refers directly to *the seven and one-half million*

¹Calif. Ex. 2012 (Tr. 11,173), p. 3, lines 3-4.

²70 CONG. REC. 459 (1928), quoted in Calif. Ex. 2015 (Tr. 11,173), at 54.

³(Footnote ours.) Calif. Ex. 2012 (Tr. 11,173), p. 3, line 4.

acre-feet of water that are mentioned in paragraph 3." (Emphasis added.)

Senator Phipps' perfecting amendment was accepted without objection.⁴

Before Senator Phipps perfected his amendment, misunderstanding concerning the precise provision of the Compact intended to be referenced might have been conceivable.⁵ There can be no occasion whatever for misunderstanding after the amendment was perfected. It is incredible that Senator Phipps perfected his amendment to make precise reference to Article III(a) of the Compact if he did not intend to refer to the Compact at all. If the Master were right, Senator Phipps did not "perfect" his amendment, he hopelessly obscured its meaning by using a "shorthand" so esoteric that it defied translation for more than 30 years.⁶

It is inconceivable that Senator Phipps would have referred to the Compact "inappropriately." Senator Phipps was the chairman of the Senate Committee on Irrigation and Reclamation which held extensive hearings on the fourth Swing-Johnson bill⁷ and reported

⁴*Supra* note 2.

⁵Before perfection, the words "waters apportioned to the lower basin. States by the Colorado River compact" might have been misunderstood to refer to the 75 million acre-feet of flow which Article III(d) requires to pass Lee Ferry every 10 years. Cf. Rep. 187-88.

⁶The Master says that "[T]his inappropriate reference to the Compact has been the cause of seeming inconsistency in the Act and of much confusion in its interpretation." (Rep. 173.)

⁷*Hearings on S. 728 and S. 1274 Before the Senate Committee on Irrigation and Reclamation*, 70th Cong., 1st Sess. (1928).

Senator Phipps had also been a member of that Senate committee during consideration of the second and third Swing-Johnson bills. See *Hearings on S. 727 Before the Senate Committee on Irrigation and Reclamation*, 68th Cong., 2d Sess. (1924); *Hearings Pursuant to S. Res. 320 Before the Senate Committee on Irrigation and Reclamation*, 69th Cong., 1st Sess. (1925).

the bill favorably containing the first version of a proposed limitation to be exacted from California.⁸ He was the author of several amendments (actually substitute texts) to section 4(a),⁹ one of which became the first paragraph of that section.¹ Senator Phipps must have been thoroughly familiar with the provisions of the Compact and thus understood that the waters apportioned by Article III(a) of the Compact embraced both the main stream and the tributaries in the lower basin. He surely intended to define the limitation on California in those terms. For example, two days before he perfected his amendment, he and Senator Hayden engaged in the following colloquy upon the limitation provision (70 CONG. REC. 335):

"Mr. HAYDEN. If the Senator thought there was force in that argument, I should think that he would have included in his amendment a provision eliminating the waters of the Gila River and its tributaries, as my amendment does.

"Mr. PHIPPS. I do not consider it necessary because the bill itself, not only the present substitute measure but every other bill on the subject, ties this question up with the Colorado River compact.

"Mr. HAYDEN. My amendment does that.

"Mr. PHIPPS. Yes; that is true, but under estimates of engineers—one I happen to recall being made, I think by Mr. La Rue—notwithstanding all of the purposes to which water of the Gila may be put by the State of Arizona, at least 1,000-000 acre-feet will return to the main stream. Yet Arizona contends that that water is not available

⁸See Calif. Ex. 2001 (Tr. 11,173), p. 7, lines 4-12.

⁹Calif. Exs. 2004, 2009, 2012 (Tr. 11,173).

¹Calif. Ex. 2012 (Tr. 11,173).

to California; whereas to-day and for years past at least some of the waters from the Gila River have come into the canal which is now supplying the Imperial Valley.

"It is not a definite fixed fact that with the enactment of this proposed legislation the all-American canal is going to be built within the period of seven years; as a matter of fact, it may not be built at all; we do not know as to that. *But I do not think that the water from the Gila River, one of the main tributaries of the Colorado, should be eliminated from consideration. I think that California is entitled to have that counted in as being a part of the basic supply of water.*" (Emphasis added.)

To resolve any differences among conflicting expressions of intention by Senators, the specific statement by Senator Phipps, author of the first paragraph and of its perfecting amendment, and chairman of the reporting committee, must be taken as controlling.² If the Master is right, Senator Phipps did not understand his own amendment.

C. Confused, Conflicting, and Ambiguous Statements on the Floor of the Senate Cannot Overturn the Natural and Literal Incorporation of the Compact in the Limitation

If the Master is correct—that "Compact" does not mean Compact, and that "Colorado River" means "Lake Mead and below"—the English language is not adequate to achieve the evident purpose of the Project Act and the limitation on California. The fault in this

²Schwegmann Bros. v. Calvert Distillers Corp., 341 U.S. 384, 394-95, 399-400 (1951); United States v. Wrightwood Dairy Co., 315 U.S. 110 (1942).

construction lies not with Congress nor with the words which Congress put in the statute. It lies in ignoring the persuasive legislative history, *supra*, and in yielding the natural and literal meaning of express and purposeful words to confused debate originating during a filibuster.³

The Master relies heavily upon Senator Pittman of Nevada (Rep. 176-77). However, the Master himself has elsewhere made clear why Senator Pittman's statements cannot be accepted as the basis for interpreting the limitation (Rep. 188-90, 193): Senator Pittman, as did Senator Hayden (Rep. 190-93), confused the Article III(a) apportionment with the Article III(d) flow at Lee Ferry. The Master has conclusively demonstrated that these two articles cannot be identified (Rep. 144, 187-88). If "all subsequent discussion in the Senate flowed in the same channel" (Rep. 190), this conceded confusion is not a persuasive substitute for the clear and literal meaning of the statute or its authoritative legislative history.

Senator Pittman, in debate with Senator Bratton over the tri-state compact set forth in the second paragraph of section 4(a), expressed his standard for interpreting specific language in a statute in light of a conflicting legislative history (70 CONG. REC. 470):

"When Congress uses certain language, there may be a vast difference of opinion among Senators as to what the courts will construe it to mean; but when they use exact language which the Congress of the United States says they may use in an agree-

³See Senator Hayden's description in 1949 of this filibuster in Ariz. Reply to Calif. Answer, app. 6, p. 95.

ment, then the Congress is supposed to know what the agreement means."

The Master also quotes Senator Johnson (Rep. 179 n.38) to the effect that under the tri-state compact set forth in section 4(a) Arizona would receive 2.8 million acre-feet "in addition to" the Gila. The worst that can be said is that Senator Johnson's statements during the debates in the press to secure passage in face of an Arizona filibuster (her second one) were not always consistent. He had earlier read to the Senate the definition of the Colorado River system from Article II(a) of the Compact, and Herbert Hoover's answer to question 4 propounded by Senator Hayden⁴ which explained the reason for including all tributary systems in the Compact (70 CONG. REC. 466 (1928)). Senator Johnson then stated that he opposed the pending Hayden version of a tri-state compact amendment to section 4(a)⁵ because it would amend the Compact by excluding the Gila (*ibid.*). Senator Hayden denied this (*ibid.*) and explained that the purpose of his amendment was to assure Arizona the use of Gila River waters, free from any obligation to supply Mexico (*id.* at 467).

Senator Johnson accepted the tri-state compact provision as the second paragraph after it had been amended to make it permissive rather than mandatory so that it did not represent "the will or the demand or the request" of Congress (*id.* at 472). Thereupon, all efforts to clarify it ended.

Senator Hayden and Senator Ashurst voted against the bill (*id.* at 603); apparently, the Arizona Senators

⁴Ariz. Ex. 55 (Tr. 260), text in Calif. Exhibits, vol. 24, pp: A31, A33. Mr. Hoover was chairman of the Colorado River Commission which negotiated the Compact.

⁵Calif. Ex. 2014 (Tr. 11,173) is the Hayden amendment.

were not convinced that the Project Act was as favorable to Arizona as the Master's Report would provide.

To summarize: The limitation, read naturally, makes an express reference to the Colorado River Compact. The weight of the legislative history accords with the literal meaning of the statute, and thus concludes any doubts as to the construction of the language.⁶ Taken most strongly against us, however, the legislative history is ambiguous, conflicting, and uncertain, and therefore cannot be permitted to overturn the natural meaning of the language of the limitation.⁷

IV. TRUNCATION OF THE COLORADO RIVER AT LAKE MEAD IS NOT LOGICAL BECAUSE DIVERSIONS OF WATER FROM BRIDGE CANYON (ABOVE LAKE MEAD) HAVE BEEN PLANNED FOR USE IN BOTH ARIZONA AND CALIFORNIA BEFORE AND AFTER ENACTMENT OF THE PROJECT ACT

Prior to passage of the Project Act, Congress was told of plans to divert large quantities of Colorado River water at Bridge Canyon above Lake Mead for use in Arizona and in California.¹ Senator Cameron of Arizona advocated such a plan on the Senate floor during the debates on the third Swing-Johnson bill.² The Senator placed in the *Congressional Record* a map,

⁶*Schwegmann Bros. v. Calvert Distillers Corp.*, 341 U.S. 384, 390 (1951); *United States v. Spelar*, 338 U.S. 217, 219 (1949). See Jones, *The Plain Meaning Rule and Extrinsic Aids in the Interpretation of Federal Statutes*, 25 WASH. U.L.Q. 2, 21, 25-26 (1939).

⁷*Ex parte Collett*, 337 U.S. 55, 61 (1949); *FCC v. Columbia Broadcasting Sys.*, 311 U.S. 132, 136-37 (1940).

¹*E.g.*, 68 CONG. REC. 4429-30, 4444-46 (Cameron), 4516 (Phipps), 4521 (Kendrick, Pittman) (1927).

²68 CONG. REC. 4429-30, 4444-46 (1927).

illustrating the diversion at Bridge Canyon for use in Arizona and California.³

Since the passage of the Project Act, diversion points for the proposed Central Arizona Project at Bridge Canyon or Marble Canyon (above Lake Mead) have been studied as well as the diversion point at Parker Dam (Rep. 227).

The Thirteenth Annual Report of the Arizona Interstate Stream Commission to the Governor of Arizona (1960) states (p. 31):

"The circulation of the Special Master's draft report on *Arizona v. California et al.* has given new impetus to plans for utilizing Colorado River water in Arizona. An integral part of Colorado River water utilization plans for Central Arizona is a route for diversion. The Stream Commission and the [United States] Geological Survey have undertaken a co-operative program to map the unsurveyed area which would be traversed by a proposed diversion route from Marble Canyon. With the mapping program nearing completion, detailed cost estimates can be made which will facilitate consideration of the relative desirability of this diversion route to central Arizona."

Marble Canyon, just above Bridge Canyon and below Lee Ferry, is another site on the Colorado River main stream above Lake Mead which the Special Master defines as a "tributary" outside the terms of his decree.

After passage of the Project Act, The Metropolitan Water District of Southern California investigated a large number of alternative routes for its Colorado River Aqueduct, finally reducing them to four. The

³68 CONG. REC. 4431 (1927).

diversion points for these four routes were (1) Parker Dam, which was ultimately selected, (2) Boulder Canyon, (3) Bridge Canyon, above Lake Mead, and (4) the All-American Canal. The district's report on these four routes shows that the Bridge Canyon diversion was under serious consideration until late 1930.⁴

In the History and First Annual Report of the Metropolitan Water District, for the period ending June 30, 1938, Metropolitan reported that the most important point in consideration of a Bridge Canyon diversion was its cost of some \$558,000,000. The decision was still not final (p. 84):

“When the upper river shall have been completely developed and controlled and when the demand for power in the Southwest has been largely increased and the supply of cheap steam power has been exhausted, it may be desirable to construct a dam from 600 ft. to 900 ft. high at Bridge Canyon for the purpose of producing hydroelectric energy. When such a dam shall have been constructed and financed by some agency other than the Metropolitan Water District, it may be found feasible to make a gravity connection to it thus eliminating all

⁴See The Metropolitan Water District of Southern California, *Summary of Preliminary Surveys, Designs and Estimates for the Metropolitan Water District Aqueduct and Terminal Storage Projects* (November 1930) and *Final Report of the Engineering Board of Review* (December 1930), a copy of which is tendered to this Court and to each of the other parties with the filing of this brief. The map, plate 2 *infra*, shows aqueduct routes from figure 64, p. 148, of this document. Appendix V, p. 155, explains reasons for rejecting the diversion from Bridge Canyon.

or part of the pumping necessary to bring the water to Los Angeles over a pumping route."

The proposed diversions for projects in both Arizona and California described above are illustrated on plate 2 *infra*.

In light of these facts, the theory of truncation of the Colorado River at Lake Mead is not now, and never was, a viable idea. Why, for example, would Congress, with full knowledge of tremendous diversions proposed at Bridge Canyon above Lake Mead for use in Arizona and California, have restricted the operation of Project Act sections 4(a) and 5 solely to Lake Mead and below? Why did not California divert water at Bridge Canyon (or at least make a more substantial effort to do so) if the consumptive use of this water diverted above Lake Mead would not be charged under the limitation? Why would Arizona press for a Central Arizona Project to divert at Bridge Canyon where her late priority project would have to compete with senior California projects when the water supply became scarce? (See Rep. 247.) At Parker, on the other hand, the Central Arizona Project would share in Arizona's pro rata allocation of "mainstream" waters independent of interstate priorities under the Master's decision.

There is only one answer to these questions: Congress did not truncate the Colorado River at Lake Mead.

V. THE CONSENSUAL NATURE OF THE LIMITATION, ESTABLISHED BY THE PROJECT ACT AND THE RECIPROCAL CALIFORNIA LIMITATION ACT UPON SIX-STATE RATIFICATION OF THE COMPACT, REQUIRES A NATURAL AND LITERAL READING OF THE LIMITATION TO INCORPORATE THE COLORADO RIVER COMPACT

The Master construes the limitation as if it were imposed by congressional fiat.¹ This is wrong, as the Master sometimes recognizes.²

The consensual nature of the limitation

The limitation is cast in the classic language of contract: The United States made an offer to California (first paragraph of section 4(a)) to "agree irrevocably and unconditionally with the United States and for the benefit of the States of Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming, as an express covenant and in consideration of the passage of this Act" California accepted that offer by enacting the limitation and by her six-state ratification of the Compact. Five other basin states accepted the limitation as the predicate for six-state ratification of the Compact. Colorado, Nevada, New Mexico, and Wyoming forbore to repeal between December 21, 1928 (when the Project Act was enacted), and June 25, 1929 (when the Project Act became effective), their earlier six-state ratifications of the Compact. Utah, which had repealed her six-state ratification in 1927, ratified the Compact again as a six-state agreement shortly after California

¹E.g., Rep. 165: "The reason that Congress imposed this limitation on California's consumptive use of mainstream water . . . is apparent from the statutory language itself." (Emphasis added.) See also Rep. 164, 165-66.

²See Rep. 182, 317.

enacted the Limitation Act. All six ratifying states expressly waived seven-state ratification required by Article XI of the Compact, as specified in sections 4(a) and 13(a) of the Project Act. Arizona did not ratify. The Compact, the Limitation Act, and the Project Act all became effective simultaneously upon presidential proclamation on June 25, 1929. (See Rep. 24-27.) This group of documents established a statutory compact between California and the United States for the benefit of the six other expressly named basin states.³ An interstate agreement or compact has often been characterized by the Court as a contract⁴ and as a treaty.⁵

Significance of consensual nature in problems of interpretation

The consensual nature of the limitation is important in construing the meaning of section 4(a) of the Project Act. No one has the option to accept or reject ordinary federal statutes. Section 4(a) of the Project Act is deliberately oriented in the opposite direction. The Project Act was an offer to the basin states to

³The United States and a state may validly enter into agreements by means of reciprocal legislation. *Stearns v. Minnesota*, 179 U.S. 223, 248 (1900); *Searight v. Stokes*, 44 U.S. (3 How.) 151 (1845); *Neil, Moore & Co. v. Ohio*, 44 U.S. (3 How.) 720 (1845).

⁴*Virginia v. West Virginia*, 220 U.S. 1, 34 (1911); *Kentucky Union Co. v. Kentucky*, 219 U.S. 140, 161 (1911); *Green v. Biddle*, 21 U.S. (8 Wheat.) 1, 92 (1823); see concurring opinion of Jackson, J., *West Virginia ex rel Dyer v. Sims*, 341 U.S. 22, 36 (1951); see ZIMMERMANN & WENDELL, *THE INTERSTATE COMPACT SINCE 1925*, at 32 (1951).

⁵*Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92, 104, 105, 107 (1938); *Arizona v. California*, 292 U.S. 341, 359-60 (1934); *Virginia v. Tennessee*, 148 U.S. 503, 527 (1893); *Rhode Island v. Massachusetts*, 45 U.S. (4 How.) 591, 635 (1846); *Rhode Island v. Massachusetts*, 37 U.S. (12 Pet.) 657, 725 (1838); see ZIMMERMANN & WENDELL, *op. cit. supra* note 4, at 31-32.

enter into an agreement; by its very terms it did not become operative until the offer had been accepted by those states. Each state had to interpret the offer in order to decide whether to accept it; therefore, the consensual nature of the limitation scheme reinforces the weight which must be given to the express language employed by Congress in the Project Act. "Shorthand" (Rep. 173) or cryptic meanings gleaned from selected portions of the Senate debates, which were not communicated to the states, must not be permitted to overturn this clear literal meaning. Great weight must also be given to the administrative, practical, and legislative construction of this agreement by the parties to it and by the other basin states which are its express beneficiaries.

The Master replies that the Project Act and the California Limitation Act cannot be characterized as offer and acceptance. Section 4(a) of the Project Act, he asserts, "is not an offer but a condition precedent to the effectiveness of the Project Act" (Rep. 181). There is no such distinction even under ordinary contract law; a promise which is also a condition is a frequent ingredient of a contract. But whatever label is put on the limitation, it is clearly consensual in nature.

The Master's transmutation of the controversy

The Master further replies that if the Project Act is interpreted as an offer, it does not follow that the limitation must be given its natural and literal meaning: "Thirty years of unabated controversy," says the Master, "give unchallenged testimony that the language is *not* plain on its face." (Rep. 182; emphasis in original.) Significantly, the Master fails to define that "controversy." There have been "thirty years of unabated

controversy" about the meaning of the Compact, but there has never been any doubt, until this Report created it, that the reference in section 4(a) to the "Colorado River compact" means the Colorado River Compact signed on November 24, 1922.

California and the other basin states made a bargain with each other and with Congress in 1929. California then assumed a calculable risk: What provisions of the Compact are incorporated into the Project Act? What do those provisions mean?⁶

California should not be charged with taking the risk that the language of section 4(a) would be rewritten 30 years later so that the words refer to a different river (the "mainstream") and to classifications of water entirely unrelated to the Compact to which its words unmistakably refer. The limitation's reference to the Compact was neither modified nor excised by section 2 of the California Limitation Act, as the Master implies (Rep. 181-82).⁷

⁶If "Compact" means Compact, we assumed a negligible risk about the meaning of the phrase "waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact" in light of the Master's confirmation of the plain meaning of Article III(a) of the Compact. (See Rep. 142-44.) ~~The Master refuses to consider the Compact in construing the limitation and thus would destroy the basis on which we calculated that risk.~~

⁷Section 2 of the Limitation Act (Rep. 181, app. 398) provides: "By this Act the State of California intends to comply with the conditions respecting limitation on the use of water specified in subdivision 2 of Section 4(a) of the said 'Boulder canyon project act' and this act shall be so construed." The Master's construction of the Limitation Act makes § 2 (which is not the substantive part of the statute) more significant than § 1 which enacts the limitation in Congress' words; if the Master's interpretation of § 4(a) of the Project Act and of § 2 of the Limitation Act were correct, § 1 enacting the limitation was utterly useless.

To bolster his conclusion that "Compact" does not mean Com-

Construction by the states concerned

The bargain between Congress and California is not only an agreement between those sovereigns; it is also by its own specific terms "an express covenant" for the benefit of the six other states of the basin. The understanding of those beneficiaries, although not controlling, is relevant in interpreting what that agreement means. An examination of the expressions of spokesmen for those states reveals that the beneficiaries, including Arizona, consistently understood the terms of the bargain (as did California) to refer to the Compact in accordance with the natural and literal meaning of the language used in the Project Act and in the Limitation Act.⁸

fact, the Master asserts that § 2 of the Limitation Act suggests the California Legislature's awareness of "this ambiguity in the statutory language." (Rep. 182; emphasis added.) Whatever the Master may mean by "this ambiguity," the California Legislature certainly did not find any ambiguity in the limitation's incorporation of the Compact. The obvious purpose of § 2 was to remove any possible doubt that California intended to comply with the limitation.⁹

⁸The supporting documents are too voluminous to be included easily within the text of this brief. We submit these bound within volume 25 of California Exhibits.

These documents were submitted to the Special Master as a part of California's Offer of Proof dated August 17, 1960, after the draft report had revealed that the basis of the decision was a contention never offered by anyone, hence never tried, that the cross reference to the Compact in § 4(a) was "inappropriate" (Rep. 173) and must be disregarded. California submitted the offer to prove that the administrative, practical, and congressional construction of the Project Act and California Limitation Act for 30 years has uniformly been: "The Colorado River Compact controls the interpretation of the limitation on California set forth in the first paragraph of section 4(a) of the Project Act and in the Limitation Act as if the Compact had been fully recited therein." (Brief in Support of Calif. Offer of Proof dated Aug. 17, 1960, pp. I-1 and I-2.)

The Master rejected the offered documents on the ground that none of them, even assuming their competency, "establish any proposition that will affect the disposition of the issues in

For example, the official report of Arizona's Colorado River Commission,¹ published just after the enactment of the Project Act in December 1928, analyzed that act and concluded that section 4(a) of the act incorporated and was controlled by the Colorado River Compact and that the limitation adopted the Colorado River Compact's definitions and classifications of water from the Colorado River and its tributaries, including the Gila.² Arizona's published report on the meaning of section 4(a) preceded the California Legislature's enactment of the Limitation Act by over two months. Is it reasonable that California should have discerned that the limitation was devastatingly more severe to California than Arizona, reading its plain language, had said it was?

Through all the years that followed, in every available forum—in interstate conferences, before the Secretary, in Congress, and in successive trips to this Court³—Arizona always took the same view: “Com-

this litigation” (Rep. 253). We believe that ruling was clearly wrong. In any event, these documents are clearly relevant and are judicially noticeable. See, *e.g.*, *United States v. Louisiana*, 363 U.S. 1 (1960); *United States v. Ahtanum Irr. Dist.*, *236 F.2d 321 (9th Cir. 1956), *cert. denied*, 352 U.S. 988 (1957).

¹The Colorado River Commission of Arizona was an official state body charged by statute with responsibility for matters concerning the Colorado River. Act of March 7, 1927, ARIZ. LAWS 1927, ch. 37, p. 84.

²Calif. Ex. 7501 for *iden.* (Tr. 22,760). The report was dated December 31, 1928.

³See, *e.g.*, the following exhibits submitted as part of California's offer of proof which the Special Master rejected (Rep. 253); Calif. Exs. 7503-7504, 7506-7508, 7510-7512, 7513-C, and 7514-B, all for *iden.* (Tr. 22,760). For a discussion of the significance of the foregoing exhibits, as well as an analysis of Arizona's representations before Congress, see our brief dated August 17, 1960, in support of our offer of proof, pp. III-18 through 33, III-36 through 38, III-42 through 44, III-48, III-108 through 109, III-111 through 114, III-118 through 120, and III-147 through 149.

compact" in section 4(a) means Colorado River Compact.

California's Colorado River Commission,⁴ a counterpart of the Arizona Commission, published its official report in September 1930, likewise interpreting section 4(a) and the then recently enacted Limitation Act as incorporating the Colorado River Compact and adopting its definitions and classifications of water.⁵ California has unwaveringly taken the same position at all times.

In this present suit New Mexico and Utah stoutly resisted joinder, even in lower basin capacities. It occurred neither to their counsel, to the late Special Master who recommended their joinder, nor to this Court that they are not even proper parties—let alone indispensable parties—to a "mainstream" controversy among Arizona, California, and Nevada.

Construction by federal administrators

The consistent and reiterated administrative construction of the limitation upon California was that the limitation incorporated the Colorado River Compact, including the Compact's definitions and classifications of water.⁶ The Master denies that there was any administrative construction on the theory that the United States had refused to "take sides in the Arizona-California

⁴The Colorado River Commission of California was an official state body charged by statute with the responsibility of Colorado River matters. Act of May 17, 1927, CALIF. STATS. 1927, ch. 596, p. 1030, § 2. Under § 5, p. 1031, the existence of the commission was to end in 1929, but it was extended two more years by CALIF. STATS. 1929, ch. 367, p. 691, § 2.

⁵Calif. Ex. 7502 for iden. (Tr. 22,760).

⁶See supporting materials collected in Calif. Offer of Proof and Brief in Support of Offer, dated Aug. 17, 1960, at III-53 through 130.

controversy." (Rep. 252.) We agree that federal administrators refused to take sides between Arizona and California on the "controversy" between them about what the Compact meant; but there was no uncertainty among the administrators about whether the Compact was incorporated into the Project Act and the Limitation Act. On that question the federal administrators did not refuse "to take sides." There is and was only one view; "Compact" means Compact.

Congressional awareness and construction

Congress was aware of the consistent construction which the affected parties and the administrators had placed upon the limitation, that "Compact" means Com-

"The federal administrators had very clearly defined the "controversy" upon which they were *not* taking sides, and it was *not* the "controversy" which the Master's decision has created. For example, on January 29, 1944, Clifford E. Fix, Assistant Chief Counsel, Bureau of Reclamation, submitted a memorandum to the Solicitor of the Department of the Interior prior to the hearing before the Secretary on February 2, 1944, on the proposed Arizona water delivery contract. Mr. Fix stated in the course of that memorandum: "Despite all that has been said by both states over a period of more than twenty years, there is now only one issue. The sole issue is whether the 1,000,000 acre feet provided for the lower basin by Article III(b) of the compact is unapportioned.

"While Arizona claimed for years that the Gila River and its tributaries were not to be included in the apportionment to the lower basin, it now concedes that the Gila and its tributaries are included in the waters apportioned to the lower basin under Articles III(a) and III(b). It rests its entire case on two propositions: (1) California has limited itself to 4,400,000 acre feet of apportioned water, and (2) III(b) water is apportioned water." (Calif. Ex. 7604 for *iden.*, Tr. 22,760, at 5.) Commissioner of Reclamation H. W. Bashore concurred with the conclusions of the Fix memorandum and forwarded it to the Secretary of the Interior, along with the proposed Arizona water delivery contract which he submitted, for approval. (Calif. Exs. 7605-7606, both for *iden.*, Tr. 22,760.) It was this "controversy" which was the basis for the language of article 10 of the Arizona contract and it was this controversy which the Secretary refused to resolve, as Secretary Ickes made perfectly clear in a decision promulgated by him contemporaneously with the execution of the Arizona

pact, and that the controversy was limited to determining the Compact provisions referred to and their meaning.⁸ This same construction stems from the conduct of Congress in subsequent legislation. The most significant example occurred in 1945 when the Senate ratified the Mexican Treaty¹ on the basis of a literal interpretation of the Project Act and the Limitation Act as incorporating the Colorado River Compact. After extensive hearings,² the Senate Foreign Relations Committee reported the treaty favorably.³ The committee report states that California's contracts call for 5,362,000 acre-feet per annum, which include 962,000 acre-feet of unallocated surplus. The Compact surplus was estimated to be about 2 million acre-feet, less the 1.5 (or 1.7) million acre-feet guaranteed to Mexico.⁴ Thus, the committee asserted that any curtailment of deliveries to California would be caused

contract in February 1944. (See Calif. Ex. 7607 for *iden.*, Tr. 22,760, a memorandum the substance of which was published by the Secretary. (Calif. Ex. 1837 (Tr. 12,257).)

⁸See the following comments by affected states on the 1947 report by the Department of the Interior on development of the Colorado River basin: Calif. Exs. 7513-C for *iden.* (Tr. 22,760) at 15-16, 17-18 (Arizona); 7513-D for *iden.* (Tr. 22,760) at 55-56 (Colorado). Similar comments on the proposed Central Arizona Project are also pertinent: Calif. Exs. 7514-B for *iden.* (Tr. 22,760) at 10-11 (Arizona); 7514-E for *iden.* (Tr. 22,760) at 100 (New Mexico). For the administrators' view, see Ariz. Ex. 71 (Tr. 310, 3,513, 3,520-21), at 150-51, quoted in Calif. Ex. 7514-F for *iden.* (Tr. 22,760). For a discussion of these documents, see Calif. Offer of Proof and Brief in Support of Offer, pp. III-36, 38, 42, 45-46 (Aug. 17, 1960).

¹45 Stat. 1219 (1945), Ariz. Ex. 4 (Tr. 220).

²*Hearings Before the Senate Committee on Foreign Relations on a Treaty with Mexico Relating to the Utilization of the Waters of Certain Rivers*, 79th Cong., 1st Sess. (1945).

³S. EXEC. REP. No. 2, 79th Cong., 1st Sess., pt. 1 (1945).

⁴The treaty guarantees 1.5 million acre-feet per annum to Mexico, subject to reduction under certain conditions or to increase to 1.7 million acre-feet when surplus waters are available. See Ariz. Ex. 4, *supra* note 1, § 10.

not by the treaty but by subjection of California's rights to the Compact which, in turn, subjects surplus waters to first call for any Mexican treaty (Article III(c)) and does not permit allocation of such surplus waters until after October 1, 1963 (Articles III(f) and III(g)).⁵ The Committee Report clearly related California's 4.4 million acre-feet to Article III(a) of the Compact, not to 7.5 million acre-feet of "mainstream" water. California's exposure to the Mexican burden was related to the 962,000 acre-feet of Compact surplus recognized in the California contracts—computed on a basin-wide, not a "mainstream" basis. Thus, California's "firm" rights to 4.4 million acre-feet of "Article III(a) waters" would not be invaded.⁶

The limitation on California must be given its natural and literal meaning: "Compact" means Compact.

⁵S. EXEC. REP. No. 2, *supra* note 3, at 6-7. The Master quotes testimony of a California witness before the Senate committee during hearings on the treaty expressing concern that performance of the treaty might invade California's 4.4 million acre-feet of III(a) water (Rep. 251). He neglects to quote, or even cite, the Senate committee report on the treaty, which reassured California that this could not happen.

⁶See Brief in Support of Calif. Offer of Proof dated Aug. 17, 1960, pp. III-131 through 141.

PART THREE

THE MASTER ERRED IN HOLDING THAT THE BOULDER CANYON PROJECT ACT AUTHORIZED THE SECRETARY OF THE INTERIOR TO IMPOSE A FEDERAL INTERSTATE APPORTIONMENT ON THE STATES WITHOUT THEIR CONSENT, BY A "CONTRACTUAL ALLOCATION SCHEME"

Statement of the Issue

The Master holds that the Project Act authorized the Secretary, by means of water storage and delivery contracts, to "impose a federal apportionment" (Rep. 154) of "mainstream" waters on the states of Arizona, California, and Nevada; and that he did so. California's component, he holds, is determined by the limitation contained in section 4(a) of the Project Act (discussed in Part Two of this brief). The components for Arizona and Nevada are derived from a contract with Arizona and a contract with Nevada, both executed in 1944, by which the Secretary intended to effectuate the tri-state compact authorized by the second paragraph of section 4(a) but never ratified by any state. The Master concludes that the Secretary, although not required by the act to follow that formula, substantially effectuated it. The primary characteristic of this "contractual allocation scheme," as inferred by the Master, is the abrogation, as among "mainstream" users, of the principles of equitable interstate apportionment (particularly the principles of priority and protection of existing uses), previously established by this Court, and the

substitution of interstate proration in ratios derived from his interpretation of the act and contracts.

The whole "contractual allocation scheme" envisioned by the Master is an ingenious design for a nonexistent apparatus. The water service contracts exist, but the act did not contemplate that they should effectuate an interstate allocation; they do not purport to have made one; they did not make one *sub silentio*; they do not purport to abrogate interstate priorities and substitute interstate proration in the event of shortage. The limitation on California's rights is controlled by the proper interpretation of the limitation on California (discussed in Part Two *supra*), not by the Secretary's contracts with Arizona and Nevada.

The Master's construction of the Project Act and of the water delivery contracts is contradicted by the decisions of this Court, by the language of the statute, its legislative history, the statutory pattern of which it is an integral part, and its congressional, administrative, and practical construction for more than 30 years.

**I. THE HOLDING IN *ARIZONA v. CALIFORNIA*,
283 U.S. 423 (1931), CONCLUSIVELY DETER-
MINED THAT THE PROJECT ACT DID NOT
ABROGATE THE PRINCIPLES OF PRIORITY
OF APPROPRIATION AND EQUITABLE AP-
PORTIONMENT**

In Arizona's first Colorado River suit, *Arizona v. California*, 283 U.S. 423 (1931), this Court held that the Project Act did not displace, except as the states

might expressly compact thereunder, the principles of priority of appropriation and equitable apportionment in the "mainstream" or any other part of the Colorado River system in the lower basin. It is 30 years too late to overturn that decision. Development in the basin has gone forward in reliance upon it; Congress has accepted and reenacted it; the parties to the suit are foreclosed by it.¹

In that decision, this Court did not leave the parties to speculate about its holding on this issue; the Court identified it precisely (283 U.S. at 464):

"As we hold that the grant of authority to construct the dam and reservoir is a valid exercise of Congressional power, that the Boulder Canyon Project Act does not purport to abridge the right of Arizona to make, or permit, additional appropriations of water flowing within the State or on its boundaries, and that there is now no threat by Wilbur, or any of the defendant States, to do any act which will interfere with the enjoyment of any present or future appropriation, we have no occasion to consider other questions which have been argued. The bill is dismissed without prejudice to

¹In the 1931 suit, Arizona sued the six other Colorado River basin states and Secretary of the Interior Wilbur. 283 U.S. at 449.

an application for relief in case the stored water is used in such a way as to interfere with the enjoyment by Arizona, or those claiming under it, of any rights already perfected or with the right of Arizona to make additional legal appropriations and to enjoy the same." (Emphasis added.)

The Court's language is unmistakable. The principle laid down—that nothing in the act purports to abridge the right of Arizona to appropriate waters of the Colorado River above or below the dam either in 1931 or in the future²—obviously applies to every state in the basin, and not merely to Arizona alone. The Court's construction of the Project Act does not hinge upon Arizona's unilateral action ratifying or failing to ratify the Colorado River Compact. Thus the Court made clear that the source of any modification in the states' rights to appropriate, control, or use the waters of the Colorado River in the lower basin was not the Project Act, but a valid interstate agreement. Section 18 of the

²283 U.S. at 462-63. That the act did not interfere with prospective appropriations is underlined by the Court's statement that "the Act interposes no legal inhibitions" on the execution of Arizona's alleged plans "for the taking of additional water in Arizona pursuant to its laws." The Court pointed out that "Years must elapse before the project is completed. If by operations at the dam any *then* perfected right of Arizona, or of those claiming under it, should hereafter be interfered with, appropriate remedies will be available. Compare *Kansas v. Colorado*, 206 U.S. 46, 117." (First emphasis added.) 283 U.S. at 463.

Project Act was held to have specifically preserved those rights of the states, *inter sese*.³

It is equally clear that this Court held that the Project Act does not divest—except by agreement of a state—either the quantity or priority of appropriations which had already been validly made.⁴

³"The Act does not purport to affect any legal right of the State, or to limit in any way the exercise of its legal right to appropriate any of the unappropriated 9,000,000 acre-feet which may flow within or on its borders. On the contrary, section 18 specifically declares that nothing therein 'shall be construed as interfering with such rights as the States now have either to the waters within their borders or to adopt such policies and enact such laws as they may deem necessary with respect to the appropriation, control, and use of water within their borders, except as modified' by interstate agreement. As Arizona has made no such agreement, the Act leaves its legal rights unimpaired." 283 U.S. at 462.

Mr. Justice Brandeis' recognition that § 18 prohibits such an interpretation of the Project Act as the Master proposes comports with the recognition this Court has often given similar "savings clauses" as precluding supersedure or nullification of existing state law by federal legislation. See, *e.g.*, *FPC v. Niagara Mohawk Power Corp.*, 347 U.S. 239, 252 & n.17 (1954) (§ 27 of the Federal Power Act) (Mr. Justice Douglas, joined by Justices Black and Minton, dissented on other grounds but agreed "that the Federal Power Act was not intended to interfere with water rights created by state law." 347 U.S. at 258); *United States v. Gerlach Live Stock Co.*, 339 U.S. 725 (1950) (§ 8 of the Reclamation Act of 1902).

⁴283 U.S. at 460-61. See also *Arizona v. California*, 298 U.S. 558, 570 (1936), the *Judicial Apportionment* suit, in which the Court said: "[I]t is evident that the United States, by Congressional legislation and by acts of its officers which that legislation authorizes, has undertaken, in the asserted exercise of its authority to control navigation, to impound, and control the disposition of, the surplus water in the river not already appropriated. The defendant states contend, and Arizona does not deny, that the natural dependable flow of the river is already over-appropriated, and it does not appear that without storage of the impounded water any substantial amount of water would be available for appropriation.

"The decree sought has no relation to any present use of the water thus impounded which infringes rights which Arizona may assert subject to superior but *unexercised* powers of the United States." (Emphasis added.)

The Court's definition of the phrase "to appropriate water" makes clear that the Court understood the term and did not use it in any esoteric sense (283 U.S. at 459):

"To appropriate water means to take and divert a specified quantity thereof and put it to beneficial use in accordance with the laws of the State where such water is found, and, by so doing, to acquire under such laws, a vested right to take and divert from the same source, and to use and consume the same quantity of water annually forever, subject only to the right of prior appropriations."⁵

It is 30 years too late to consider the proposal implicit in the Master's Report that this Court's 1931 decision in *Arizona v. California* should be overruled.⁶ Since that decision, development in the lower basin, including construction of Hoover Dam and of great agricultural and domestic projects in California, has gone forward. (See Rep. 32-33, 53-71.)

Congress likewise accepted and acted upon this Court's 1931 holding when it appropriated funds to

⁵*Accord*, *Arizona v. California*, 298 U.S. 558, 565-66 (1936).

⁶The Master proposes to distinguish this Court's decision out of existence. (Rep. 158-60.) Neither Arizona's purported ratification of the Compact in 1944, nor the operation of the dam and reservoir anticipated by the Court in 1931, provides any basis for overturning this Court's construction of the Project Act. The meaning of Congress' words in 1928, as construed in 1931, has not changed by reason of the acts and conduct of third persons during the period 1931-1961. Indeed, the acts and conduct of Congress, of the administrators of the act, and of the states are consistent with the Court's construction of the Project Act in 1931, and wholly inconsistent with the Master's construction of the Project Act in 1960.

build Hoover Dam,⁷ as well as in 1937, when Congress appropriated funds for the Gila Project in Arizona.⁸

Congress adopted substantially the language of section 18 of the Project Act, and therefore the construction of that language,⁹ in section 14 of the Boulder Canyon Project Adjustment Act of 1940.¹⁰

The Court reaffirmed its view of the Project Act in the *Parker Dam* case, *United States v. Arizona*, 295 U.S. 174, 183 (1935):

“Arizona owns the part of the river bed that is east of the thread of the stream Her jurisdiction in respect of the appropriation, use and distribution of an equitable share of the waters flow-

⁷From 1930 through 1956, \$282,693,055 was appropriated for construction and operation and maintenance of Hoover Dam and power plant. See BUREAU OF RECLAMATION, U.S. DEPT OF THE INTERIOR, CUMULATIVE SUPPLEMENT TO BUREAU OF RECLAMATION APPROPRIATION ACTS AND ALLOTMENTS 210, 245-49 (1957).

⁸During the hearings on appropriations for the Gila Project, Commissioner of Reclamation Page transmitted to the House committee considering the measure (see *Hearings Before a Subcommittee of the House Committee on Appropriations on the Interior Department Bill for 1938*, 75th Cong., 1st Sess. 1675-81, 1807-63 (April 12, 20-21, 1937)), the opinion, dated April 14, 1937, of Acting Solicitor Kirgis. The Acting Solicitor quotes from the language of the 1931 decision upon which we rely and then concludes: “The decision of the Supreme Court seems to leave Arizona in a position to appropriate any unappropriated water of the Colorado River if it could put such water to beneficial use, and this without reference to authority given by Congress in the Boulder Canyon project act.” Calif. Ex. 7754 for iden. (Tr. 22,760). Commissioner Page’s transmittal of April 16, 1937, to the House Committee on Appropriations is Calif. Ex. 7756 for iden. (Tr. 22,760). The appropriation of funds for the Gila Project was made by the Act of Aug. 9, 1937, 50 Stat. 564, 595 (1937).

⁹“In adopting the language used in the earlier act, Congress ‘must be considered to have adopted also the construction given by this Court to such language, and made it a part of the enactment.’” *Shapiro v. United States*, 335 U.S. 1, 16 (1948), quoting with approval *Hecht v. Malley*, 265 U.S. 144, 153 (1924).

¹⁰54 Stat. 779, 43 U.S.C. § 618m (1958).

ing therein is unaffected by the [Colorado River] Compact or federal reclamation law."¹

II. EVEN IF THE ISSUE WERE NOT CONCLUDED BY *ARIZONA v. CALIFORNIA, SUPRA*, THE PROJECT ACT DOES NOT ABROGATE, BUT PRESERVES, PRIORITY AND EQUITABLE APPORTIONMENT PRINCIPLES

Even if the construction of the Project Act were an original question (which it is not), it is abundantly clear that the Project Act both expressly and by necessary implication preserves priority and equitable apportionment principles within the lower basin except as modified by effective interstate agreement.

A. Project Act Sections 18, 14, 8, and 4 Preserve Priority and Equitable Apportionment Principles

Sections 18, 14, 8, and 4 plainly manifest Congress' intention to preserve existing western water law.²

1. Section 18

Section 18³ requires compliance with state law intrastate and with the "federal common law"⁴ of priority and equitable apportionment interstate,^{4a} "except as

¹The Court had earlier defined federal reclamation law as the Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof and supplemental thereto, "including the Boulder Canyon Project Act." 295 U.S. at 180 n.2.

²*Accord*, Colorado River Storage Project Act § 7, 70 Stat. 109 (1956), 43 U.S.C. § 620f (1958).

³Section 18 of the Project Act provides:

"Nothing herein shall be construed as interfering with such rights as the States now have either to the waters within their borders or to adopt such policies and enact such laws as they may deem necessary with respect to the appropriation, control, and use of waters within their borders, except as modified by the Colorado River compact or other interstate agreement."

⁴"Federal common law" is Mr. Justice Brandeis' phrase in *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92, 110 (1938).

^{4a}As construed in *Arizona v. California*, 283 U.S. 423, 462, discussed *supra*.

modified by the Colorado River compact or other interstate agreement." That requirement is buttressed by section 14 of the act, making the act a supplement to the reclamation laws and subjecting it to the control of the reclamation laws "except as otherwise herein provided."⁵ The provisions of section 18 read with section 14 unmistakably establish Congress' intention to incorporate section 8 of the 1902 act⁶ and to make clear that nothing in the Project Act provides "otherwise."

Congress' intent to preserve existing law, plainly manifested by the language of section 18, is confirmed by the legislative history of that section. Section 18 became part of the Swing-Johnson bill on December 14, 1928.⁷ Senator King, the author of section 18, was a staunch opponent of federal control of water rights. Typical of Senator King's view is his statement to the Senate eight days before section 18 became a part of the bill:⁸

"If the Senator means by his statement that the Federal Government may go into a stream, whether it be the Colorado River, the Sacramento

⁵Section 14 provides: "This Act shall be deemed a supplement to the reclamation law, which said reclamation law shall govern the construction, operation, and management of the works herein authorized, except as otherwise herein provided." Section 12 defines "reclamation law."

⁶Section 8 of the Reclamation Act of 1902, 32 Stat. 390, 43 U.S.C. §§ 372, 383 (1958), quoted *supra* p. 63, was given interstate effect in *Nebraska v. Wyoming*, 325 U.S. 589, 612-15 (1945).

⁷70 CONG. REC. 593.

⁸70 CONG. REC. 169 (Dec. 6, 1928). Senator King was addressing Senator Hayden who hastened to agree with Senator King. *Ibid.* This is not an isolated example of congressional intent. The same view of Congress' power was repeated many times during the debate on the Swing-Johnson bills by almost every member of Congress who had anything to do with the legislation. See *infra* pp. 179-80 note 8, 181-83, 186.

River, or a river in the State of Montana, and put its powerful hands down upon the stream and say, 'This is mine; I can build a dam there and allocate water to whom I please, regardless of other rights, either suspended, inchoate, or perfected,' I deny the position which the Senator takes."

The Master limits section 18 to an *intrastate* effect. (Rep. 217, 240.) His construction distorts the language of that section and renders the phrase "except as modified by the Colorado River compact or other interstate agreement" meaningless. Obviously, *intrastate* rights are not modified by the Colorado River Compact.⁹ Nor do we know of any interstate compact ever negotiated, or even proposed, to effect an allocation of waters intrastate.

2. Section 14

Section 14 of the Project Act,¹ incorporating section 8 of the Reclamation Act of 1902, likewise compels recognition of prior appropriation and equitable apportionment principles. Congress' intent, evident from the language of section 14, is confirmed by the legis-

⁹See Art. IV(c): "The provisions of this article [IV] shall not apply to or interfere with the regulation and control by any State within its boundaries of the appropriation, use, and distribution of water." Rep. app. 375. Only Article IV contains any provisions that might conceivably have intrastate effect.

¹"This Act shall be deemed a supplement to the reclamation law, which said reclamation law shall govern the construction, operation, and management of the works herein authorized, except as otherwise herein provided" (Rep. app. 394). Section 12 of the Project Act defines "reclamation law" as used in the Project Act as "that certain Act of Congress of the United States approved June 17, 1902" (Rep. app. 392.)

lative history of that section. Congress in the Project Act did not intend, according to its coauthor, Representative Swing, "to create or to assert or to deal in or to dispose of water rights."² On the contrary, both Representative Swing,³ the House author of the

²Representative Swing, speaking on the third Swing-Johnson bill, said in *Hearings on H.R. 9826 Before the House Committee on Rules*, 69th Cong., 2d Sess. 116 (1927):

"On the question of Arizona's rights in and to the water of the river, let me say that the Government is not undertaking to create or to assert or to deal in or to dispose of water rights. It proposes to go in and construct a dam and store water for reasons which have been set out, and then it turns the water loose. The Secretary's power, as given by this act is not to sell water. The act says 'The Secretary of the Interior is hereby authorized, under such general regulations as he may prescribe, to contract for the storage of water.' Whose water? It does not say. It might be a community like Imperial Valley that has already acquired a water right, and wants its water stored, or it may be someone who hereafter will acquire a water right, but that right will not be acquired under this bill; not from the United States Government. He will acquire his water right, if he acquires one, from the State and under the laws of the State, in which he puts the water to a beneficial use. There is nothing in this bill which puts the Government in conflict with the water laws of Arizona or Utah or any other State. As a matter of fact, the reclamation law is adopted by section 13 [§ 14 of the bill as enacted] of this bill, and section 8 of the reclamation act says that what the Government does must not be in conflict with the water laws of the States, so there can be no violence done State laws on this score.

"If the water is used in Arizona, the water right must be acquired under the laws of Arizona; if in Nevada, under the laws of Nevada; if in California, under the laws of California." (Bracketed words added.)

³See note 2 *supra*.

bill, and Senator Johnson,⁴ the Senate author, explained that the intent was to preserve beneficial use as the basis, the measure, and the limit of water rights, in accordance with section 8 of the Reclamation Act to which the Project Act by section 14 was made a supplement. The bill which both its authors assured Congress had nothing to do with creating water rights then contained the words of section 5 of the act⁵ upon

⁴On February 21, 1927, Senator Johnson, speaking on the third Swing-Johnson bill, said on the floor of the Senate (68 CONG. REC. 4291):

"I repeat to you that this is a reclamation measure, made so by section 13 [now 14] of the bill. Adverting, then, to section 8 of the reclamation law, let us see how much there is in this statement that is made about appropriating the water of Arizona and taking the property of that State.

"Section 8 of the reclamation act provides:

"That nothing in this act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provisions of this act, shall proceed in conformity with such laws, and nothing herein shall in any way affect any right of any State or of the Federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof."

"So, first, our act is a reclamation act.

"Secondly, under the reclamation law we can no more affect the rights of Arizona in the waters that flow through Arizona than we could affect the title of any Arizona resident to any particular property. In passing, I may remark that it is entirely a misnomer to say that Arizona or any other State in the West, after all, has title to water. Under western law, the appropriator of water has a title to the use when the application is beneficially made of the water that he thus appropriates; but to talk of title of the State to water is entirely a misapprehension and misapplication of terms." (Bracketed words added.)

⁵House: H.R. REP. No. 1657, 69th Cong., 2d Sess., pt. 1, at 31 (Dec. 22, 1926); Calif. Ex. 2053 for iden. (Tr. 11,177) at 19. Senate: S. 3331, 69th Cong., 1st Sess. (1926); Calif. Ex. 2055 for iden. (Tr. 11,177) at 18, 19. For a brief discussion of § 5, see S. REP. No. 654, 69th Cong., 1st Sess., pt. 1, at 26-27 (April 19, 1926).

which the Master principally relies to reach the opposite conclusion.⁶ It is apparent that, contrary to the Master, the authors of the bill did not construe the language of section 5 as providing "otherwise."

The Master's restriction of section 8 of the Reclamation Act of 1902, incorporated into the Project Act by section 14, to intrastate consequences is contrary to this Court's decisions applicable to the interpretation of the reclamation laws of which the Project Act is a part. Section 8 of the Reclamation Act of 1902 has been held unequivocally to apply to interstate rights in an interstate stream.⁷

Water rights in the "mainstream" or in any other part of the Colorado River system in the lower basin which are administered under the reclamation law are controlled by section 8 of the Reclamation Act of 1902; they are not created by water delivery contract. Contracts executed by the Secretary of the Interior pursuant to section 5 of the Project Act, like other reclamation contracts, are merely a step in the acquisition of water rights which come into being by diligence in putting the waters to beneficial use in accordance with the principles of priority of appropriation and equitable apportionment.

This proposition has been conclusively established

⁶Rep. 151-53; see discussion *infra* pp. 168-91.

⁷*Nebraska v. Wyoming*, 325 U.S. 589, 612-15 (1945). See *Wyoming v. Colorado*, 259 U.S. 419, 463-71 (1922).

by this Court's decisions in *Ickes v. Fox*⁸ and *Nebraska v. Wyoming*,⁹ involving several varieties of reclamation

⁸300 U.S. 82 (1937). In that case the Court declared:

"Although the government diverted, stored and distributed the water, the contention of petitioner [Secretary of the Interior] that thereby ownership of the water or water-rights became vested in the United States is not well founded. Appropriation was made not for the use of the government, but, under the Reclamation Act, for the use of the landowners; and by the terms of the law and of the contract already referred to, the water-rights became the property of the landowners, wholly distinct from the property right of the government in the irrigation works." *Id.* at 94-95.

In a later installment of the same litigation, the Court of Appeals for the District of Columbia stated the basis of the Supreme Court's decision:

"Reading the Reclamation Act in the light of the decision in *Ickes v. Fox*, we find the situation in this case to be as follows: The water-rights of appellants are not determined by contract but by beneficial use. The Secretary of the Interior in operating the project is in the position of a carrier of water to all entrymen in the Reclamation project. He is not obligated to furnish any more water than is available. Under the Reclamation Act he is not authorized to furnish any water at all except for beneficial use. He must distribute the available water according to the priorities among the different users which are established by the law of the State of Washington. He has no concern in disputes between the various entrymen which concern their respective priorities, other than as a stakeholder. He can only make such charges to reimburse the Reclamation Fund for the construction of the project as are provided in the Reclamation Act itself." *Fox v. Ickes*, 137 F.2d 30, 33 (D.C. Cir. 1943), *cert. denied*, 320 U.S. 792 (1943).

⁹The rule announced in *Ickes v. Fox* was followed in *Nebraska v. Wyoming*, 325 U.S. 589, 614 (1945), in which Mr. Justice Douglas quoted the language of *Ickes v. Fox* set out in note 8 *supra* and added:

"The property right in the water right is separate and distinct from the property right in the reservoirs, ditches or canals. The water right is appurtenant to the land, the owner of which is the appropriator. The water right is acquired by perfecting an appropriation, i.e., by an actual diversion followed by an application within a reasonable time of the water to a beneficial use. . . . Indeed § 8 of the Reclamation Act provides as we have seen that 'the right to the use of water acquired under the provisions of this Act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right.'"

contracts identical to those utilized by the Secretary of the Interior to administer "mainstream" waters under the Project Act.¹⁰

Administrators of the Project Act have consistently construed the act as a supplement to the reclamation law: Every water delivery contract executed recites that it is executed pursuant to the Reclamation Act of 1902.¹ The United States has executed just about every species of contract recognized under the Reclamation Act of 1902 and acts supplementary and amendatory thereto with users of "mainstream" waters. These include "water right applications" both before and after enactment of the Project Act, which on approval by the

¹⁰*Ickes v. Fox*, note 8 *supra*, involved a reclamation contract with a water users association and water right applications by individual water users on the Yakima Project on the Yakima River in Washington. 300 U.S. at 88-90. *Nebraska v. Wyoming*, note 9 *supra*, involved reclamation contracts under the North Platte Project with "landowners or irrigation districts" on the North Platte River in Nebraska and Wyoming, as well as Warren Act contracts. 325 U.S. at 594-95.

¹See Rep. app. 399, 409, 419, 423. All but a few of the main stream water delivery contracts in evidence are tabulated in appendix F, vol. 2, Calif. Findings and Conclusions. Not included in that tabulation are (1) the sample water right applications for the Yuma Project in Arizona and California discussed *infra* note 2; (2) early contracts (superseded in the early 1950's) between the Secretary of the Interior and the organizations representing the users in the North Gila Valley in Arizona (Ariz. Ex. 91 (Tr. 356) dated Sept. 24, 1918, superseded by Ariz. Ex. 95 (Tr. 360) dated May 12, 1953) and in the Yuma Valley in Arizona (U.S. Ex. 19-T (Tr. 15,518) dated May 31, 1906, superseded by Ariz. Ex. 92 (Tr. 357) dated June 15, 1951); and (3) the contract, executed since the trial concluded, between the Secretary of the Interior and the City of Yuma, Arizona (Calif. Ex. 7611 for iden. (Tr. 22,760)).

Secretary become contracts with individual water users,² standard water delivery contracts with irrigation districts or water user associations (also before and after enactment of the Project Act),³ Warren Act contracts,⁴ and "special use" contracts.⁵ Arizona's Warren Act contracts recite that they are made under the Reclamation Act of 1902 and its supplements, expressly including the Project Act and the Warren Act.⁶ The Arizona "special use" contracts similarly recite the Reclamation Act of 1902, with special reference to the Project Act, the "special use" statute of February 25, 1920,⁷ and the individual project authorization statutes.

The Special Master holds that all contracts for diversion and use of "mainstream" waters which have been executed by the United States meet the requirements of section 5 of the Project Act, with one minor exception not relevant here.⁸ These include contracts described above which were executed pursuant to the reclamation laws *prior to* enactment of the Project Act.

²Ariz. Ex. 168 (Tr. 2,262) (Yuma Project, Arizona, sample water right application dated 1917); Calif. Exs. 378, 379, 380 (Tr. 8,852) (Yuma Project, California, sample water right applications dated 1917, 1910, 1948, respectively).

³*E.g.*, U.S. Ex. 19-T (Tr. 15,518) and Ariz. Ex. 92 (Tr. 357) (Yuma County Water Users' Association); Ariz. Ex. 93 (Tr. 359) (Wellton-Mohawk Irrigation and Drainage District). See note 1 *supra*, item (2).

⁴Seventeen Arizona Warren Act contracts are in evidence as part of Ariz. Ex. 165 (Tr. 2,247), 16 of which are tabulated in Ariz. Ex. 163 (Tr. 2,223).

⁵Eleven Arizona "special use" contracts are included in Ariz. Ex. 165, and are tabulated in Ariz. Ex. 163, note 4 *supra*.

⁶36 Stat. 925 (1911), 43 U.S.C. §§ 523-25 (1958).

⁷41 Stat. 451, 43 U.S.C. § 521 (1958).

⁸Rep. 205-21. The Master holds invalid a contract dated June 12, 1945, between the United States and the Arizona Edison Company for a term extending to December 31, 1970, because it is not for "permanent service" required by § 5 of the Project Act. (Rep. 220-21.)

One of the water right contracts to which the Master refers (Rep. 212 n.75) is California Exhibit 379 (Tr. 8,852), a 1910 water right application contract with one Adolph Kunz on the Reservation Division of the Yuma Project located in California. It is like the water right applications with reclamation project water users on the Salt River Project in the Gila River basin,⁹ and indeed, all over the West. It is in evidence as representative of a great many identical contracts with other users on the Reservation Division.¹⁰

Clearly Mr. Kunz, by this contract in 1910, did not become either beneficiary or victim of a Secretarial allocation consisting of a pro rata share in waters available to three states from the future Hoover Dam. It would seem equally clear that the water right Mr. Kunz acquired in 1910 is the same water right which Mr. Kunz (his heirs, devisees, or assigns) has today.

The Reservation Division of the Yuma Project on which Mr. Kunz secured a water right in 1910 was recognized in California's Seven-Party Priority Agreement, in the Secretary of the Interior's General Regulations, and in the water delivery contract with each California defendant agency written since the Project Act was passed, as having a second priority, junior only to Palo Verde Irrigation District's first priority.¹¹ No contract other than standard reclamation law water delivery applications with individual water users, some executed before and some since the Project Act, has ever been negotiated for the Bard Irrigation District, the non-Indian portion of the Reservation Division of the Yuma

⁹E.g., U.S. Exs. 30 and 31 (Tr. 15,537 and 16,146).

¹⁰Calif. Ex. 381 (Tr. 8,855); Tr. 8,853-55 (Steenbergen).

¹¹See, e.g., Palo Verde contract, Rep. app. 425.

Project.¹² If there is a "contractual allocation scheme," Mr. Kunz's contract is one of the components of the scheme. But the authorization for such a scheme did not become law until 19 years after the Kunz contract.

Similarly, on the Arizona side of the river in the Yuma area, standard reclamation contracts were the only contracts controlling deliveries to the users on the Valley Division of the Yuma Project and in the North Gila Valley, adjacent to the Yuma Project, until the early 1950's.

In 1906, the Secretary of the Interior executed a water delivery contract with the Yuma County Water Users' Association¹ which remained in effect until 1951, when the same parties executed a supplemental contract under which present deliveries are made.² The 1951 contract, while it states that it is made pursuant to the Reclamation Act of 1902 as amended and supplemented, does not expressly state that it is made pursuant to the Boulder Canyon Project Act.³ However, section 12(a) provides that water deliveries thereunder will be subject to the Colorado River Compact and the Project Act. Likewise, in 1918, the Secretary of the Interior executed a contract with the North Gila Valley Irrigation District providing for the continued delivery of water to the North Gila Valley, even though the area had not been officially included within the Yuma Project area by the Secretary of the Interior.⁴ It was not until 1953 that a supplemental water delivery contract was executed between the same parties.⁵ The 1953 contract

¹²Tr. 8,819-20 (Steenbergen); Calif. Ex. 50 (Tr. 6,898).

¹U.S. Ex. 19-T (Tr. 15,518).

²Ariz. Ex. 92 (Tr. 357).

³*Id.* at art. 1.

⁴Ariz. Ex. 91 (Tr. 356).

⁵Ariz. Ex. 95 (Tr. 360).

states that it is made pursuant to the Reclamation Act of 1902 as amended and supplemented, specifically citing the Boulder Canyon Project Act.⁶

The 1953 contract with the North Gila Valley Irrigation District calls for the delivery of sufficient stored water from Lake Mead, "including all other waters diverted for use within the District from the Colorado River," as may be ordered by the district and reasonably required, subject, in part, to "the express understanding and agreement that such rights, if any, as the District or the landowners within the District may have heretofore acquired to the use of water from the Colorado River, are unimpaired by this contract."⁷ The 1951 contract with the Yuma County Water Users' Association calls for the delivery of sufficient stored water in Lake Mead, "including all other water diverted for use within the division from the Colorado River System" (emphasis added) as may be ordered by the district and reasonably required, subject, in part, to "the express understanding and agreement that such rights, if any, as the Association or the landowners within the division may have heretofore acquired to the use of water from the Colorado River are unimpaired by this contract."⁸ The only right that any user in either area had is a right which arose prior to the enactment of the Project Act by virtue of beneficial use pursuant to an appropriation under Arizona law. The Project Act did not unilaterally transform any early right, with priority applicable interstate and protected under the doctrine of equitable apportionment, into a pro rata share of a contractual allocation never

⁶*Id.* art. 1.

⁷*Id.* arts. 5 and 5(d).

⁸Ariz. Ex. 92 (Tr. 357), arts. 12(a) and 12(a)(4).

fully accomplished, under the Master's thesis, until 1944 when the Secretary executed the contract with the State of Arizona. Further, it is obvious that the Secretary of the Interior did not consider it necessary to execute new contracts with the users in the North Gila Valley and the Yuma Valley pursuant to the broad powers which the Special Master finds Congress delegated to the Secretary under section 5. Obviously, the Secretary concluded that the earlier reclamation contracts satisfied the mandate of section 5, if any contract at all were necessary, just as the Master considers that water right application contracts with users in the Bard District in California meet the Project Act requirement.

If there is a contractual allocation scheme, it never came to fruition, if at all, until 1944 when the Arizona water delivery contract was executed. Yet the 1906 and 1918 contracts must have been components of a Secretarial scheme of some variety prior to 1944, since they coexisted with the California contracts. What was the contractual allocation scheme during that 15-year period? If those contracts were part of any allocation, their execution preceded by 23 and 11 years, respectively, the enactment of the purported authorization for such a scheme.

Unless the wide variety of water delivery contracts described at Rep. 205-14 serves a different function on the Colorado River system than this Court has held they serve on the Yakima River in Washington and the North Platte River in Nebraska and Wyoming,⁹ water rights thereunder are controlled by section 8

⁹See pp. 151-52 notes 8 & 10 *supra* for discussion of *Ickes v. Fox*, 360 U.S. 82 (1937), and *Nebraska v. Wyoming*, 325 U.S. 589 (1945).

of the Reclamation Act of 1902, whether the contract is for delivery of "mainstream" water or for waters of the Gila River system.

3. *Sections 8(a) and (b) and 4(a), First Paragraph*

This Court's previous construction of Project Act sections 14 and 18¹⁰ is likewise consistent with the provisions of sections 8(a) and (b) and 4(a), first paragraph. Thus, section 8(a) and (b) expressly applies to "all users and appropriators of water stored" behind Hoover Dam. If the Project Act abrogated appropriations (other than "present perfected rights," a term not used in section 8(a) and (b)), the word "appropriators" is not only misused, it is misleading. No purpose other than an interstate purpose could conceivably be served by section 8(a) and (b). The first paragraph of section 4(a) defining the terms of the limitation upon California specifies that there must be included all water needed to supply "any rights which may now exist." Those rights must refer to interstate rights under equitable apportionment principles, including priority of appropriation, since no other basis for interstate rights was then recognized in the lower basin.

B. Legislative History and Administrative and Practical Construction of the Project Act Confirm Preservation of Priority and Equitable Apportionment Principles

Congress did not leave its intent to be derived by implication. But if Congress had omitted sections 14 and 18 of the Project Act and if it were necessary to ascertain Congress' intent by inferences drawn from other provisions of the statute, from its legislative his-

¹⁰Arizona v. California, 283 U.S. 423 (1931), and United States v. Arizona, 295 U.S. 174, 183 (1935), discussed pp. 140-45 *supra*.

tory, from its administrative and practical construction, and from the pattern of similar legislation, the inferences which could properly be drawn from those sources sustain one conclusion only: The Project Act preserved priority of appropriation and equitable apportionment in the "mainstream" and in every other part of the Colorado River system in the lower basin.

1. *Legislative History*

As we have seen (*supra* pp. 146-50), Congress was repeatedly informed during the debates on the third and fourth Swing-Johnson bills, both in the House and in the Senate: (1) that the prior appropriation doctrine was universally adopted throughout the arid West; (2) that the appropriation doctrine applied across state lines under the decision of this Court in *Wyoming v. Colorado*; and (3) that section 8 of the Reclamation Act of 1902, incorporated in the Project Act by reference, conferred federal approval upon the principles of prior appropriation.

If Congress intended to abrogate, change, or modify what it knew was the settled existing law, the inference is inescapable that it would have expressed itself clearly on that subject. Congress did express itself clearly. Congress, on three occasions in the Project Act, expressly authorized modification of these principles—not by congressional or administrative fiat—but by authorizing or approving effective interstate agreement: (1) Congress authorized and approved the Colorado River Compact, modifying the law of equitable apportionment basin versus basin (section 13 and section 4(a), first paragraph); (2) Congress specified the terms of the limitation which California was to

impose upon herself, stating the maximum quantitative use to which California was entitled, thus *pro tanto* qualifying the operation of equitable apportionment (section 4(a), first paragraph); (3) Congress authorized a tri-state compact among Arizona, California, and Nevada which, if it had been ratified and become effective, would have affected equitable apportionment by compact apportionment to Arizona and Nevada (section 4(a), second paragraph), but this compact was not ratified by any state.¹ Since Congress expressed itself clearly on the precise subject, the inference is clear that the omission to abrogate, to alter, or to limit equitable apportionment and priority of appropriation other than as specified is deliberate and purposeful: Congress intended to preserve unchanged that which it did not expressly qualify.

The administrative, practical, and congressional construction of the statute confirms the analysis of the language, purpose, and legislative history that the Project Act does not nullify priority and equitable apportionment.²

¹Of course, under the general authorization of § 19, any of the Colorado River basin states could have entered into subsidiary compacts supplemental to the Colorado River Compact which might have modified the principle of equitable apportionment, but no such compact has ever been executed in the lower basin (Rep. 29).

²All of the materials herein cited relating to administrative, congressional, and practical construction are either received in evidence or judicially noticeable. *E.g.*, *United States v. Louisiana*, 363 U.S. 1 (1960). The exhibits marked for identification which are discussed below are the materials which we submitted to the Special Master in an offer of proof rejected by the Report (pp. 248-53). In addition to the materials set forth *infra*, see administrative construction of § 14 of the Project Act, *supra* pp. 152-58.

2. *Subsequent Congressional Construction*

During the hearings on the first appropriation bill for the construction of Hoover Dam, Senator Hayden argued:³

"What will happen is that the waters of the Colorado River will be impounded in the Boulder Canyon Reservoir and made available for use; large quantities of water will be taken out of the Colorado River into the great all-American canal; over 1,000,000 acre-feet will be further taken out of the river by a pumping plant, and taken over into the coastal plain of California in the vicinity of Los Angeles; they will be put to beneficial use; and, *once having acquired a prior right to its use, no other State can obtain the use of those waters.*" (Emphasis added.)

Senator Hayden made similar assertions during the Senate debates in opposing that appropriation bill.⁴ Senator Hayden later inserted in the *Congressional Record* the text of a letter from Chairman Charles B. Ward of the Colorado River Commission of Arizona to Colonel William J. Donovan, commenting on the failure of the 1929 tri-state negotiations:⁵

"We knew that if a tri-State compact was not

³*Hearings on H.R. 12902 Before the Subcommittee of the Senate Committee on Appropriations*, 71st Cong., 2d Sess. 171 (1930), quoted in Calif. Ex. 1808 (Tr. 12,240).

⁴72 CONG. REC. 11775-76 (1930).

⁵*Id.* at 11,803, 11,804. The Commission was an official body in Arizona, charged by statute of its state with responsibility for Colorado River system matters, including negotiations with other states and the federal government and the issuance of reports and bulletins. ARIZ. LAWS 1927, ch. 37, pp. 84, 86, 87. Charles B. Ward is identified in Calif. Ex. 1351 for *idem.* (Tr. 11,436) as its chairman as of Aug. 1, 1929.

Colonel Donovan was the federal representative in the tri-state negotiations referred to by Mr. Ward.

made with California, that California would have the right of prior appropriation against our State as to the waters allocated to the lower basin, and with her wealth, power, and influence Arizona would soon find that the Colorado River water would be of no benefit to her."

Congress subsequently appropriated the funds to begin construction of Hoover Dam.⁶

In 1940, Congress enacted section 14 of the Boulder Canyon Project Adjustment Act⁷ in almost the identical language of section 18 of the Project Act. This section in the Project Act was the basis of the Court's explicit holding in *Arizona v. California*, 283 U.S. 423, 462 (1931), that appropriation is not abrogated by the Project Act, except as the states agree. Its adoption, nine years after this decision, constitutes congressional acceptance of the judicial interpretation.

3. *Administrative and Practical Construction*

On July 31, 1930, the Acting Secretary of the Interior informed the attorneys for the Palo Verde Irrigation District in California that Hoover Dam storage would not interfere with the prior rights to the use of the river, for which no contract would be required.⁸

The battle waged in 1937 by the six states which had ratified the Colorado River Compact against the request for appropriations for the Gila Project (diverting main stream waters at Imperial Dam) in Arizona produced further administrative affirmations of the priority doctrine. An interoffice memorandum dated April 9, 1937, to Commissioner of Reclamation Page from

⁶Act of July 3, 1930, 46 Stat. 877-78.

⁷54 Stat. 779, 43 U.S.C. § 618m (1958).

⁸Calif. Ex. 351 (Tr. 9,929).

counsel for the Reclamation Bureau points out that this new project must be subject to prior rights of earlier contractors.⁹

“Contracts have heretofore been made for the sale of water in California in accordance with the compact rights of California, and the sale of water for use on the Gila project in Arizona must be subject to the rights of such California contractors, as well as to the rights of any other contractors in the six States for a water supply from the Colorado River under the compact.”

On April 14, 1937, Acting Solicitor of the Interior Kirgis delivered to the Commissioner an opinion that under this Court's 1931 decision Arizona was free to appropriate any unappropriated water of the Colorado River it could put to beneficial use, independent of the Project Act.¹ On April 16, 1937, Commissioner Page communicated the same principle to Ward Bannister of Colorado who had protested the sale of Lake Mead water to the Gila Project without Arizona's ratifying the Compact. Commissioner Page again stated that prior rights of earlier contractors in California and elsewhere in the basin would be respected.² On the same date, Commissioner Page transmitted these last two documents³ to the House Committee on Ap-

⁹Calif. Ex. 7753 for iden. (Tr. 22,760).

¹Calif. Ex. 7754 for iden. (Tr. 22,760), discussed *supra* p. 144 note 8.

²Calif. Ex. 7755 for iden. (Tr. 22,760): “Contracts have been made for the sale of water in California in accordance with the compact rights of California, and the sale of water for use on the Gila project in Arizona must be subject to the rights of such California contractors as well as to the rights of any other contractors in the six states for a water supply from the Colorado River under the compact.”

³Calif. Exs. 7754 and 7755, both for iden., *supra* notes 1 & 2.

appropriations which was considering the appropriations for the Gila Project.⁴ President Roosevelt, on June 21, 1937, approved a finding of feasibility for the Gila Project⁵ in which it was again pointed out that sales of water to Gila Project users were subjected to prior contracts made under the Project Act and to superior treaty rights.⁶ In August 1937, funds were appropriated for the Gila Project.⁷

Arizona's conduct of her Colorado River matters is consistent only with the construction of the Project Act that preexisting western water law was preserved by that act. Arizona did not secure a water delivery contract with the Secretary until 1944. At all times, however, users in Arizona, both with and without contracts, have ordered and received "mainstream" water for consumptive use.⁸ In 1935, Arizona sued the six other Colorado River basin states for "a judicial apportionment among the states in the Colorado River basin of the *unappropriated water of the river . . .*."

⁴Calif. Ex. 7756 for idem. (Tr. 22,760).

⁵Ariz. Ex. 60 (Tr. 269), at 126.

⁶*Id.* at 123: "In all sales of water rights [for the Gila Project] it will be necessary to prescribe that the water supply of the project is subject to the Colorado River compact, and to the Boulder Canyon Project Act and to the sales of water under the compact and said act and to the treaty which it is anticipated will be made with Mexico fixing that country's rights in the flow of the Colorado River."

⁷Act of Aug. 9, 1937, ch. 570, 50 Stat. 595.

⁸On plate 3 *infra* we present a schematic diagram of "mainstream" users in Arizona and California, both with and without water delivery contracts. This diagram illustrates that "mainstream" waters have been diverted for use in Arizona without contracts, both in the past and presently. For example: The city of Yuma, whose water rights stem from an 1893 appropriation, did not obtain a water delivery contract with the Secretary of the Interior until 1960, after this trial had ended. The South Gila Valley in the Gila Project, Arizona, is irrigated in part by private pumping without contracts.

Arizona v. California, 298 U.S. 558, 560 (1936) (emphasis added). Arizona had no water delivery contract when she brought that suit; and she did not name the Secretary of the Interior as a defendant.⁹

On February 26, 1948, the State of Nevada, as provided by statute,¹⁰ submitted its comments on the Secretary of the Interior's report on the Central Arizona Project. These comments are a practical construction of the Project Act that, absent a lower basin compact, priority controls intrabasin rights, even though this construction operates against Nevada's interests.¹¹

4. *Statutory Scheme of the Reclamation Law*

The Boulder Canyon Project Act must be construed not only as a part of the reclamation laws (*supra* pp.

⁹Arizona alleged "that to apply the doctrine of appropriation as the law governing an equitable apportionment of the waters of said river among the plaintiff and the defendants, and particularly between Arizona and California, under the facts alleged in this Bill of Complaint, would be inequitable and result in an unjust enrichment of the State of California at the expense of her co-defendants and of Arizona and of the Treasury of the United States." Ariz. Complaint, Calif. Ex. 7506 for iden. (Tr. 22,760), p. 35.

Arizona's pleadings are incomprehensible if she then construed the Project Act as nullifying equitable apportionment and priority of appropriation. Neither is such a possibility suggested by the Court's opinion.

¹⁰Flood Control Act of 1944, § 1, 58 Stat. 887, 33 U.S.C. § 701-1 (1958).

¹¹Nevada's comments appear in H.R. Doc. No. 136, 81st Cong., 1st Sess. (1949), reproduced as Calif. Ex. 7514-D for iden. (Tr. 22,760). Point 12 of the Nevada comments (*id.* at 99) states: "The proposed allocation of 300,000 acre-feet plus a share of surplus water to Nevada in the Colorado River is of great value to this State. That interest is imperiled by lack of the tri-State compact authorized between Arizona, California, and Nevada. *Without the tri-State compact Nevada must rely upon State laws for the water, and our rights are junior to those of California.*" (Emphasis added.)

145-58), but also *in pari materia* with the other federal statutes dealing with water rights in the arid West. Federal statutes have regularly and without exception recognized state law as governing western water rights.¹² Our construction of the Project Act accords with this pattern of federal legislation.¹ The Master's construction would create one inexplicable exception.

III. THE MASTER MISCONSTRUES AND MISAPPLIES SECTIONS 5 AND 8(b) OF THE PROJECT ACT

We agree with the Master that the Project Act "clearly reserves to the United States broad powers over the water impounded in Lake Mead and delegates this power to the Secretary of the Interior, as agent of the United States" (Rep. 152). This authority is manifested by Project Act provisions in section 1 (authorizing the Secretary to "construct, operate, and maintain" Hoover Dam for the purposes, among others, of improving navigation, river regulation, and the storage and delivery of water (Rep. app. 379)), section 5 (authorizing the Secretary, under such general regulations as he may prescribe, to contract for the storage and the delivery of stored water, and providing that no person shall have or be entitled to have the use of stored water except by such contract (Rep. app. 384-85)), and section 8(b) (subjecting any bi- or tri-state compact

¹²The Court in *United States v. Fallbrook Pub. Util. Dist.*, 165 Fed. Supp. 806, 841 & n.1 (S.D. Cal. 1958), cites an "almost unbroken line" of 25 federal statutes in which "Congress has deferred to state laws concerning water." The texts of 36 such statutes are set out in appendix B to our rebuttal brief before the Special Master, dated June 30, 1959.

¹See *United States v. Jefferson Elec. Mfg. Co.*, 291 U.S. 386, 396 (1934), quoted with approval in *United States v. Arizona*, 295 U.S. 174, 191 (1935).

among Arizona, California, and Nevada, dividing the benefits, including power, from the use of water, to prior contracts made by the Secretary (Rep. app. 389-90)). Those provisions were designed, as the Master recognizes, for the purpose of permitting the Secretary to construct the dam and reservoir and to administer its functions thereafter.² The Master assumes, however, that while this was the "basic purpose," a subsidiary purpose was the interstate allocation of water (Rep. 152-54). We disagree that Congress had any such subsidiary purpose or that any such subsidiary purpose necessarily follows from the basic purpose.

Water delivery contracts were never intended to be substitutes for an interstate compact. Absent an interstate compact, the law of equitable apportionment and priority of appropriation, left undisturbed by the Project Act within the framework of the Colorado River Compact and the Limitation Act, controlled the interstate disposition of waters of the Colorado River and its tributaries.³

The purpose of water delivery contracts was to provide the Secretary with effective authority to administer the orderly storage and delivery of water, to obtain revenues as part of the financing of the construction and operation of Hoover Dam and reservoir, and to assist Congress' purpose to protect the upper basin's Compact apportionment.

²Rep. 183: "The Project Act was concerned primarily with the construction and operation of Hoover Dam, and most of its provisions relate to this basic purpose."

³The Master's assumption that, absent interstate compact, waters stored in Lake Mead must be forever wasted or allocated by water delivery contracts rests upon his unsupportable conclusion that Congress abrogated equitable apportionment and priority principles in the "mainstream." Rep. 153, 252.

A. Section 5 of the Project Act Is Not a Source of Authority for the Interstate Allocation of "Mainstream" Waters

The first paragraph of section 5 of the Project Act is the focal point of the Master's inferences that Congress authorized the Secretary to impose a "federal apportionment" on the "mainstream" users. It provides (Rep. app. 384-85):

"That the Secretary of the Interior is hereby authorized, under such general regulations as he may prescribe, to contract for the storage of water in said reservoir [Lake Mead] and for the delivery thereof at such points on the river and on said canal as may be agreed upon, for irrigation and domestic uses, and generation of electrical energy and delivery at the switchboard to States, municipal corporations, political subdivisions, and private corporations of electrical energy generated at said dam, upon charges that will provide revenue which, in addition to other revenue accruing under the reclamation law and under this Act, will in his judgment cover all expenses of operation and maintenance incurred by the United States on account of works constructed under this Act and the payments to the United States under subdivision (b) of section 4. Contracts respecting water for irrigation and domestic uses shall be for permanent service and shall conform to paragraph (a) of section 4 of this Act. *No person shall have or be entitled to have the use for any purpose of the water stored as aforesaid except by contract made*

as herein stated." (Emphasis and bracketed words added.)

The Master asserts that Congress added the last sentence "to make its intention abundantly clear" that the Project Act is "the source of authority for the allocation and delivery of water to Arizona, California and Nevada from Lake Mead and from the Colorado River below Lake Mead." (Rep. 151.) The Secretary's water delivery contracts must be the basis for the allocation of all "mainstream" water because, using the Master's aphorism, "no contract, no water." (Rep. 153.)

The Master misconstrues the statutory scheme.

1. *The Statutory Scheme of the Project Act*

First, that emphasized sentence from section 5 expressly provides that a water delivery contract is required, not for the use of *all* "mainstream" waters, but only for "water stored as aforesaid."⁴ Stored waters are the waters made available for consumptive use by the regulation provided by Hoover Dam.⁵ Holders of pre-

⁴The first sentence of § 5 authorizes the Secretary to contract "for the storage of water in said reservoir and for the delivery thereof" (Rep. app. 384). Section 1 authorizes the Secretary to construct, operate, and maintain Hoover Dam and Lake Mead, *inter alia*, to provide "for storage and for the delivery of the stored waters" (Rep. app. 379).

⁵See Calif. Ex. 351 (Tr. 9,929), letter dated July 31, 1930, from the Acting Secretary to attorneys for Palo Verde Irrigation District, which construes stored water as water in excess of that which could have been used under prior rights from "unregulated flow" (p. 2); Tr. 10,070-71 (Conkling), defining "stored water," by custom and usage, as "water that has been retained in a reservoir out of its normal occurrences for later use"; *Gila Valley Irr. Dist. v. United States*, 118 F.2d 507, 508-09 (9th Cir. 1941). The federal Salt River Project, Arizona, gives a clear example of the distinction between rights in stored water and preexisting rights in natural flow transiting through a reservoir. Tr. 2,164-67 (McMullin). Cf. *Nebraska v. Wyoming*, 325 U.S. 589, 631 (1945).

existing rights in natural flow available for consumptive use without Hoover Dam regulation do not need water delivery contracts.⁶

The Court held in Arizona's third suit (*Arizona v. California*, 298 U.S. 558, 570 (1936)):

"[I]t is evident that the United States, by congressional legislation and by act of its officers which that legislation authorizes, has undertaken, in the asserted exercise of its authority to control navigation, to impound, and control the disposition of, *the surplus water in the river not already appropriated*. The defendant states contend, and Arizona does not deny, that the natural dependable flow of the river is already over-appropriated, and it does not appear that without the storage of the impounded water any substantial amount of water would be available for appropriation."⁷ (Emphasis added.)

⁶The Master occasionally states that Congress delegated to the Secretary the authority to allocate within his discretion the water "unappropriated" as of June 25, 1929. Rep. 153; see also Rep. 203: "[N]o new water right without a contract" (emphasis added). The Master's "contractual allocation scheme," however, divides *all* "mainstream" water available for consumptive use in any year (e.g., Rep. 305-06).

⁷Earlier, the Court noted, based on Arizona's Bill of Complaint, that "3,600,000 acre feet are diverted annually below Lees [sic] Ferry from the river and its tributaries other than the Gila." (298 U.S. at 562 n.2.)

This construction accords with the administrative practice. Each of the California water delivery contracts, substantially *in haec verba*, calls for the delivery "from storage available in [Lake Mead] . . . so much water as may be necessary to supply the District a total quantity, *including all other waters diverted for use of the District from the Colorado River*" in the amounts and with the priorities thereafter specified.⁸ The Secretary's contracts with Arizona projects, executed pursuant to the 1944 contract with the state,⁹ contain substantially identical provisions,¹⁰ as does Nevada's 1944

⁸Palo Verde Irrigation District contract art. (6) (Rep. app. 424); Imperial Irrigation District contract art. 17 (Ariz. Ex. 34 (Tr. 249)); Coachella Valley County Water District contract art. 17 (Ariz. Ex. 36 (Tr. 250)); Metropolitan Water District amended contract art. 6 (Ariz. Ex. 39 (Tr. 252)) [*cf.* first contract of Metropolitan Water District art. 6 (Ariz. Ex. 38 (Tr. 251)) that the United States will deliver a specified quantity, "provided, that such amount is without prejudice to any additional rights which the District may have or acquire in or to the waters of the Colorado River, or to the power of the parties to contract hereafter with reference thereto"]; City of San Diego contract art. 7 (Ariz. Ex. 40 (Tr. 242)), which has been merged with Metropolitan Water District's contract (Ariz. Ex. 41 (Tr. 253)).

⁹Art. 7(1) of the Arizona contract provides that deliveries of water thereunder shall be made for use in Arizona to persons or agencies "as may contract therefor with the Secretary, and as may qualify under the Reclamation Law or other federal statutes or to lands of the United States within Arizona." (Rep. app. 403.)

¹⁰See, *e.g.*, Yuma County Water Users' Ass'n contract art. 12(a): "including all other water diverted for use within the division from the Colorado River System" (emphasis added), (Ariz. Ex. 92 (Tr. 357)); Wellton-Mohawk Irr. & Drainage Dist. contract art. 4 (Ariz. Ex. 93 (Tr. 359)); Unit B Irr. & Drainage Dist. contract art. 5, containing the same reference to the Colorado River system as Ariz. Ex. 92 quoted *supra* this note (Ariz. Ex. 94 (Tr. 359A)); North Gila Valley Irr. Dist. contract art. 5 (Ariz. Ex. 95 (Tr. 360)); Yuma Mesa Irr. & Drainage Dist. contract art. 4 (Ariz. Ex. 96 (Tr. 361)); and City of Yuma contract art. 6(a), containing the same reference to the Colorado River system as Ariz. Ex. 92 quoted *supra* this note (Calif. Ex. 7611 for *iden.* (Tr. 22,760)).

contract.¹¹ The emphasized language recognizes the preexisting natural flow rights of each agency contracting with the Secretary. The Secretary agrees to deliver sufficient stored water to each agency so that the aggregate of the natural flow and stored water diverted for the use of that agency will equal a specified quantity.^{11a}

This construction was established by an administrative determination made by the Secretary of the Interior on July 31, 1930, about one year after the Project Act became effective, during the negotiations for the California water delivery contracts. In response to an inquiry from the Palo Verde Irrigation District's attorneys, the Acting Secretary stated (Calif. Ex. 351 (Tr. 9,929) at 2):

"If no stored water is required by the Palo Verde Irrigation District, no contract between that district and the United States will be required.

¹¹Ariz. Ex. 44 (Tr. 254), art. 4 (Rep. app. 420): "including all other waters diverted for use within the State of Nevada from the Colorado River system" (emphasis added).

^{11a}See *Nebraska v. Wyoming*, 325 U.S. 589, 631 (1945): "[The Warren Act contracts] do not provide that the United States will furnish water in such amounts as may from time to time be available. The United States agrees to deliver water which will, *with all the water to which the land is entitled by appropriation or otherwise*, aggregate a stated amount." (Emphasis added.) The Court's footnote to this last sentence quotes the following language from one of the contracts: "Thus the contract with the Gering Irrigation District provides: 'The United States will impound, and store water in the Pathfinder Reservoir, or elsewhere and release the same into the North Platte River at such times and in sufficient quantities to deliver, and does hereby agree to deliver at the Wyoming-Nebraska State line for the use of said District an amount of water which will, *with all the water the lands of the District may be entitled to by reason of any appropriations and all water not otherwise appropriated, including drainage and seepage waters developed by the United States*, aggregate a flow of water as follows . . .'" (325 U.S. 631 n.17; emphasis added.)

Those possessed of prior rights to the unregulated flow of the river will be privileged to continue the enjoyment of those rights without interference by storage in the Boulder Canyon reservoir."

Second, the water delivery contracts aid in the administration of the dam and reservoir because they regulate the delivery of "stored waters." Section 5 does not say that a water delivery contract is the source of a water right. Rather it says that a person without a contract has no right to use "stored waters." The Master relies upon the requirement "no contract, no water" (Rep. 153).¹² This requirement, applicable only

¹²The prohibitory phrasing of the contract requirement is not peculiar to the Project Act. Similar phraseology is employed in other parts of the reclamation law dealing with water delivery contracts. See, e.g., § 46 of the Omnibus Adjustment Act of 1926, 44 Stat. 649, as amended, 43 U.S.C. § 423e (1958):

"No water shall be delivered upon the completion of any new project . . . until a contract or contracts . . . shall have been made . . . providing for payment . . . of the cost of constructing, operating, and maintaining the works . . ." (Emphasis added.)

The Reclamation Project Act of 1939, § 9(d), 53 Stat. 1195-96, as amended, 43 U.S.C. § 485h(d) (1958), similarly provides:

"No water may be delivered for irrigation of lands in connection with any new project . . . until an organization . . . has entered into a repayment contract with the United States . . ." (Emphasis added.)

Congress' use of prohibitory language similar to that of § 5 in setting out contract requirements under the basic reclamation laws both before and after the Project Act demonstrates that Congress did not intend in § 5 to carve out a unique exception to the Secretary of the Interior's customary contractual authority under the basic reclamation laws. It is also significant that contracts under both of the acts referred to above were considered by this Court in the two most recent decisions involving the relationship of reclamation contracts and water rights as affected by § 8 of the Reclamation Act of 1902.

The mandate of § 46 of the Omnibus Adjustment Act was in effect in 1935 when the Secretary executed the contract with the Casper-Alcova Irrigation District on the North Platte River which this Court gave detailed consideration in *Nebraska v. Wyoming*, 325 U.S. 589, 633 (1945). (See *Wyo. Ex. 3*, contained in the Court's files of *Nebraska v. Wyoming*, No. 5

to stored water, does not prove who is entitled to a contract. But, even if "stored water" is all water in the river below Hoover Dam, holders of "present perfected rights," at least, are entitled to a contract. (See section 6 of the Project Act, Rep. app. 387.)

A water delivery contract serves the same function as a permit or a license to appropriate water under state law; these administrative devices are used in each western state to regulate and to administer the acquisition of rights to the waters subject to appropriation. No person may appropriate such water except by permit and license. However, the water right is created and preserved by exercising due diligence in putting water to beneficial use, not by a piece of paper, whatever it is called—permit, license, or contract.¹³ Under the reclama-

Original, October Term 1960.) The Court's application of § 8 to the reclamation contracts involved on the Interstate North Platte River is discussed *supra* p. 151 note 9.

Similarly, § 9(d) contracts executed under the Reclamation Project Act of 1939 were at issue recently in *Ivanhoe Irr. Dist. v. McCracken*, 357 U.S. 275 (1958). The Special Master recognizes that under those decisions "water rights and priorities as between a reclamation project and other users *within the same state* are governed by state law" (emphasis added), citing to that portion of the *Ivanhoe* decision where § 8 is discussed (Rep. 218). While *Ivanhoe* was concerned solely with intrastate matters, the Court's discussion of § 8 does not limit that section to intrastate effect. Indeed, the Court's discussion should be interpreted consistently with the previous decision in *Nebraska v. Wyoming*, *supra*, where § 8 was expressly applied interstate. See also *Wyoming v. Colorado*, 259 U.S. 419, 463-71 (1922).

¹³In 1929, § 1c of the California Water Commission Act was almost a paraphrase of § 5 of the Project Act. It provided: "No right to appropriate or use water subject to [appropriation] shall be initiated or acquired . . . except upon compliance with the provisions of this act." (CALIF. STATS. 1923, ch. 87, § 1, p. 162.) The California Supreme Court held that the California law in this posture was designed "merely to regulate and administer" the appropriation of water. The permit was "not the right itself." *Yuba River Power Co. v. Nevada Irr. Dist.*, 207 Cal. 521, 525, 526, 279 Pac. 128, 129, 130 (1929).

In *Wyoming v. Colorado*, this Court recognized that permits to appropriate are not the source of water rights because "the amount of the appropriation turns on what is actually done under the permit." 259 U.S. 419, 489 (1922).

mation act, to which the Project Act is expressly made a supplement (sections 12 and 14 (Rep. app. 392, 394)), a federal water storage and delivery contract is not a patent or grant of a water right.¹⁴

Third, the contracts provide charges for the delivery of "stored water" to obtain revenues to pay for the dam.¹ (Project Act sections 4(b) and 5 (Rep. app. 383-84).)

Fourth, the contracts subject all rights acquired in "stored waters" to the Colorado River Compact (Project Act sections 1, 8(a), and 13(b) and (c) (Rep. app. 379, 389, 393)).

2. *Legislative History of Section 5*

In early 1926, Secretary of the Interior Work submitted the department's views on the third Swing-Johnson bill to the Senate and House committees considering those measures.² At that time the bill contained no language authorizing the Secretary to execute water delivery contracts for the use of the stored water to be made available by the proposed dam.³ Secretary Work recommended that the stored water be administered by means of water delivery contracts under the reclamation laws:⁴

"The water so impounded should be sold to cities

¹⁴*Ickes v. Fox*, 300 U.S. 82 (1937). See *supra* p. 151 note 8.

¹See Ariz. contract (Ariz. Ex. 32 (Tr. 248) art. 9 (Rep. app. 404); Nev. contract (Ariz. Ex. 43 (Tr. 253)) arts. 9-10 (Rep. app. 412-13); Metropolitan contract (Ariz. Ex. 38 (Tr. 251)) arts. 10-11; San Diego contract (Ariz. Ex. 40 (Tr. 252)) arts. 11-12, merged with Metropolitan (Ariz. Ex. 41 (Tr. 253)).

²*Hearings on H.R. 6251 and H.R. 9826 Before the House Committee on Irrigation and Reclamation*, 69th Cong., 1st Sess. 5-9 (1926).

³*Id.* at 1-5.

⁴*Id.* at 6.

requiring it for domestic purposes and other municipal uses and to irrigation districts, like that of the Imperial Valley, desiring a complete or supplemental water supply under the provisions of the Warren Act, payment to be made for a definite volume of water each year.

“

“In the sale of water to irrigation districts and municipalities the provisions of the reclamation act and of the Warren Act would apply.

“Such an adjustment of burdens and benefits should stimulate irrigation development because of the generous terms on which water will be supplied and at the same time result in a considerable revenue from the water furnished for irrigation, domestic, and industrial uses.”

Secretary Work's recommendation that the stored water should be administered under customary reclamation contracts in order to recoup project costs (the traditional function of water delivery contracts under the reclamation laws) resulted in the addition to H.R. 6251 of the section 5 language authorizing the Secretary to make contracts to provide revenue to cover construction, operation, and maintenance costs of the project.⁵ Subsequently, at the insistence of upper basin representatives, the committee added the last sentence of the first paragraph of section 5 so as to *require* contracts for the use of stored water. (See pp. 177-80 *infra*.)

When the fourth Swing-Johnson bill was introduced

⁵See committee print of H.R. 6251, *id.* at 10-14, described by Representative Swing as substantially conforming to Secretary Work's recommendations. *Id.* at 9-10.

in December 1927, then containing the language added at upper basin insistence to the first paragraph of section 5,⁶ Secretary Work submitted a further report on this bill. In his report of January 4, 1928, to Chairman Smith of the House committee, he reasserted that stored water should be sold for domestic, municipal, and irrigation purposes "under the provisions of the Warren Act."⁷

In his report of January 21, 1928, to Chairman Phipps of the Senate committee, Secretary Work similarly reaffirmed that "water will be sold under the provisions of the reclamation law either for a complete or supplemental water supply."⁸

Congress clearly must have shared the view that contracts authorized by section 5 would be patterned after ordinary reclamation contracts. The Secretary's reports, which were printed in the committee hearings⁹ and reported to the Senate and House by the respective committees,¹ were not disputed on this point.

The legislative history of the last sentence of the first paragraph of section 5 (which the Master never mentions) is conclusive. It was not the Secretary of the Interior or any other representative of the United States, or any representative of any lower basin state who proposed to add that sentence (repeated for con-

⁶H.R. 5773 and S. 728, 70th Cong., 1st Sess., reproduced as Calif. Exs. 200 and 201, Tr. 7,712.

⁷*Hearings on H.R. 5773 Before the House Committee on Irrigation and Reclamation*, 70th Cong., 1st Sess. 7 (1928).

⁸S. REP. No. 592, 70th Cong., 1st Sess., pt. 1, at 30 (1928). (Calif. Ex. 203 (Tr. 7,715)).

⁹See notes 2 and 7 *supra*.

¹H.R. REP. No. 918, 70th Cong., 1st Sess., pt. 1, at 28-30 (1928); S. REP. No. 592, 70th Cong., 1st Sess., pt. 1, at 30-31 (1928); H.R. REP. No. 1657, 69th Cong., 2d Sess., pt. 1, at 20-24 (1926).

venience in the margin²). That sentence was initiated as an *upper basin* amendment to the third Swing-Johnson bill.³ Its purpose was explained by Delph Carpenter, upper basin spokesman,⁴ as follows:⁵

"[Mr. Carpenter.] That amendment⁶ is proposed by the upper States for the fundamental reason I assigned at the outset of my statement today, which is that we insist that no use occur by reason of this structure which may later be said to be independent of the compact and be asserted as adverse to the upper States.

"

" 'Except by contract made as herein stated' means this: If the flow of the Colorado River is controlled and regulated by the construction of the Black Canyon Dam, and any person in the State of Arizona attempt to take any water out of the

²"No person shall have or be entitled to have the use for any purpose of the water stored as aforesaid except by contract as herein stated."

³Calif. Ex. 1801 (Tr. 12,234) (committee print of the third Swing-Johnson bill showing source of proposed amendments), pp. 1, 7.

⁴By 1926, it had become apparent that Arizona probably would not ratify the Colorado River Compact, and upper basin representatives joined together to prepare a series of amendments to the proposed Swing-Johnson bill which would provide the maximum possible protection for the upper basin's apportionment against a nonratifying Arizona. These proposed amendments were presented to the House committee through Mr. Carpenter (Colorado's Compact negotiator), who acted as the authoritative spokesman for the upper basin interest, with the admonition that "we" must oppose this bill unless these amendments are adopted. *Hearings on H.R. 6251 and H.R. 9826 Before the House Committee on Irrigation and Reclamation*, 69th Cong., 1st Sess. 82, 120 (1926).

⁵*Hearings on H.R. 6251 and H.R. 9826 Before the House Committee on Irrigation and Reclamation*, 69th Cong., 1st Sess. 161, 163 (1926) (reproduced as Calif. Ex. 1802 (Tr. 12,236)).

⁶(Footnote ours.) The last sentence of the first paragraph of § 5 of the Project Act.

stream which has been discharged from the reservoir and is being carried in the stream bed, as a natural conduit, for delivery to lower users, this law would be brought into effect and he would be prevented from using any of that water independent of the Colorado River compact but unincumbered by any other condition for the benefit of California and Nevada. In other words, the compact does not disturb the rights between Arizona, California, and Nevada, *inter sese*, as to their portion of the water.

“ . . .

“The thought of this amendment is that any water stored in this reservoir under the terms of the compact, when released from storage shall be burdened by the compact wherever it goes. As far as water is concerned, existing claims of the lower States⁷ are protected by the compact. Water must pass through this reservoir to take care of the present existing lower claims.

“As to future development from the main river, we insist that water stored in this structure by the United States be stored and released upon the express condition that the persons who receive the water shall respect and do so under the compact. *It has nothing to do with the interstate relations between Arizona and California.*” (Emphasis added.)⁸

⁷(Footnote ours.) As to the “existing claims of the lower States,” see discussion *supra* pp. 169-73 re rights in natural flow.

⁸If there could be any doubt about what Mr. Carpenter intended by this language, it is dispelled by his strongly held and unalterable view, expressed to the same committee during these hearings, that the federal government could not and should

"Mr. Swing. And also they shall make a fair contribution to the burden of returning this money to the Treasury of the United States.

"Mr. Carpenter. Yes; that goes without saying. Anybody benefiting from this reservoir should help pay."

The same views were expressed by Mr. Swing, the House author of the bill.⁹

At the same time the last sentence was added to the first paragraph of section 5, correlative provisions in sections 1, 8(a), and 13(b) and (c) were also added to the Project Act at the insistence of the upper basin representatives for the same purpose, namely, to subject appropriators, the United States, and all claiming under it to the Colorado River Compact.¹ Section 8(a) expressly requires that "contractees" shall "observe and be subject to and controlled by" the Colorado River Compact in the operation of the reservoir and the storage and delivery of water therefrom, "anything in this Act to the contrary notwithstanding, and all . . . contracts shall so provide." The manifest purpose of these provisions is to protect the upper basin's Compact ap-

not be permitted to impose any federal apportionment. *Hearings on H.R. 6251 and H.R. 9826, supra* p. 178 note 4, at 148-55. Mr. Carpenter's views on this subject were shared by all members of Congress who had anything to do with the Project Act (*infra* pp. 181-83, 186).

⁹*Hearings on H.R. 9826 Before the House Committee on Rules*, 69th Cong., 2d Sess. 116 (1927); *Hearings on H.R. 5773 Before the House Committee on Irrigation and Reclamation*, 70th Cong., 1st Sess. 57 (1928) (reproduced in Calif. Ex. 1804 (Tr. 12,237), at 3-4).

¹See Calif. Ex. 1801 (Tr. 12,234), §§ 1 (pp. 1-2), 8(c) (p. 12, now 8(a), and 12(b) and (c) now 13(b) and (c) (pp. 15-16).

portionment by impressing the provisions of the Compact upon every contract.²

Delph Carpenter's statement that section 5 "has nothing to do with the interstate relations between Arizona and California" reflects one of the major areas of legislative agreement expressed throughout the legislative history of the four Swing-Johnson bills (the last of which culminated in the Project Act) by proponents and opponents of the measure alike: Congress could not make an interstate allocation of the waters of the Colorado River system, because interstate compact or litigation in this Court were the only two ways in which an interstate allocation could be accomplished. A list of representative citations is set forth in the margin.³

²See S. REP. No. 592, 70th Cong., 1st Sess., pt. 1, at 14-16 (1928) (Calif. Ex. 203 (Tr. 7,715)); H.R. REP. No. 918, 70th Cong., 1st Sess., pt. 1, at 13-15 (1928).

³*E.g.*, 70 CONG. REC. 169 (1928) (Senators King and Hayden); *id.* at 244, 245 (Senator Phipps); *id.* at 390-92 (Senator Borah); S. REP. No. 592, 70th Cong., 1st Sess., pt. 2 (minority views of Senator Ashurst), at 9 (1928), quoted in 69 CONG. REC. 6286 (1928). See also *infra* p. 186 note 1.

In January 1928, the Secretary of the Interior submitted to the Senate and the House Committees on Irrigation and Reclamation the report of Hon. James R. Garfield, former Secretary of the Interior; Prof. William F. Durand, Stanford University; Hon. James G. Scrugham, former Governor of Nevada [and Nevada's Compact Commissioner]; and Hon. Frank C. Emerson, Governor of Wyoming [and Wyoming's Compact Commissioner]; they were special advisers to the Secretary of the Interior on the Colorado River basin project. One of the questions propounded by the Secretary to his special advisers was:

"Whether the Federal Government has power to allocate the unappropriated waters of the Colorado River to the basin States, thus rendering a compact between the States unnecessary." *Hearings on S. 728 and S. 1274 Before the Senate Committee on Irrigation and Reclamation*, 70th Cong., 1st Sess. 363 (1928); *Hearings on H.R. 5773 Before the House Committee on Irrigation and Reclamation*, 70th Cong., 1st Sess. 469 (1928).

The answer submitted in the report of Mr. Emerson is typical of the advisers' opinions:

Senator Bratton, upon whom the Master relies in his construction of the California limitation,⁴ stated the current and universally held view of Congress in 1928 during the final Senate debates on the Project Act (70 CONG. REC. 330-31 (1928)):

"There are only two ways known to me through which title to water of an interstate stream, either for purposes of irrigation or development of power, may be adjudicated. One is by a compact or agreement—the method sought to be followed in this case—and the other is by a decree rendered in a suit instituted originally in the Supreme Court of the United States."

3. *Senators Quoted by the Special Master*

The Master wholly ignores the foregoing legislative history of section 5 and the repeated statements by all who took part in the consideration of the Swing-Johnson bills that Congress had no power to allocate the waters of an interstate stream. In contrast to this authoritative, unassailable legislative history, the Master relies primarily upon some excerpts from the remarks of Senators Pittman, Hayden, Walsh, and Johnson.

"Answer. No; except by determination of the Supreme Court of the United States in litigation properly presented. While the Federal Government would have the right to fully regulate, if necessary, the water of the Colorado River for interstate and foreign commerce, the right does not rest in the Government to allocate the water of the river between the States except as such allocation might be in aid of navigation. Each State is sovereign over that portion of the Colorado River contained within its boundaries and the allocation of water between the States themselves can only be accomplished by compact between them with the approval of the United States."

Senate hearings, *supra*, at 365; House hearings, *supra*, at 525.

⁴Rep. 175 n.34: "In 1933 Senator Bratton was appointed to the Court of Appeals for the Tenth Circuit and, in 1953, he became Chief Judge."

during the final debates on the fourth Swing-Johnson bill (Rep. 154-58). Those remarks, when placed in the context in which they were spoken, do not sustain the Master's position.

a. Senator Hayden

Senator Hayden, upon whom the Master relies, was the most vigorous opponent of the Project Act in Congress; he fought every Swing-Johnson bill and he voted against the fourth Swing-Johnson bill,⁵ the only such bill to come to a vote. He repeatedly denied that Congress had any power to allocate the waters of the Colorado River.⁶ The Special Master's implication to the contrary⁷ is based on a statement of Senator Hayden taken completely out of context. The Master quotes (Rep. 155) the following statement of Senator Hayden (70 CONG. REC. 169 (1928)):

"The only thing required in this bill is contained in the amendment that I have offered, that there shall be apportioned to each State its share of the water. Then, who shall obtain that water in rela-

⁵70 CONG. REC. 603 (1928).

⁶E.g., *Hearings on H.R. 9826 Before the House Committee on Rules*, 69th Cong., 2d Sess. 75-76 (1927); 70 CONG. REC. 70 (1928). See also *Hearings on H.R. 12902 Before the Subcommittee of the Senate Committee on Appropriations*, 71st Cong., 2d Sess. 170-72 (1930) (reproduced as Calif. Ex. 1808 (Tr. 12,240)).

⁷Rep. 155: "Senator Hayden of Arizona who, like Senator Pittman, was one of those most interested in the Project Act, emphasized a number of times that the bill provided a basis for the apportionment of water among Arizona, California and Nevada regardless of state law and interstate priorities, but that it would not affect intrastate water rights." Senator Hayden voted against the bill, 70 CONG. REC. 603 (1928).

tive order of priority may be determined by the State courts.”⁸ (Emphasis added.)

The amendment referred to by Senator Hayden is described by the Master as “the basis for a substitute amendment by Senator Phipps of Colorado which, in turn, was enacted as the first paragraph of Section 4(a) of the Project Act” (Rep. 155).

The amendment referred to by Senator Hayden⁹ is printed a few pages earlier in the *Congressional Record* at the point where it was offered that same day by the Senator (70 CONG. REC. 162 (1928)). The Master fails to describe that amendment, which was a substitute text to section 4(a). The first paragraph required, as a condition precedent to the effectiveness of the act, that seven states ratify the Compact and that California, in her act of ratification, enact a specified limitation. The second paragraph specified the terms of a *mandatory* tri-state compact among Arizona, California, and Nevada, by which, in effect, California’s ratification of the prescribed tri-state compact would also be a condition precedent to the effectiveness of the

⁸The Master’s footnote 23 to this quotation identifies “similar statements” by Senator Hayden at 70 CONG. REC. 163 (1928), which apparently refers to this statement:

“The State of Arizona is, therefore, interested in the apportionment of the waters of the lower basin. That is what *the amendment which I have offered* proposes to do.” (Emphasis added.) The amendment referred to (Calif. Ex. 2011 (Tr. 11,173)) is set forth at 70 CONG. REC. 162. This quotation is also taken out of context, for the reasons stated about the quotation set forth in text, discussed above.

⁹Calif. Ex. 2011 (Tr. 11,173).

Project Act.¹⁰ It was for this reason that Senator Hayden described "the amendment that I have offered" as requiring "that there shall be apportioned to each State its share of the water." Senator Hayden stated only that the *mandatory* tri-state compact would make an apportionment. (See *infra* p. 186.)

The Master has seized upon a possible ambiguity (in the debate over the mandatory formula, subsequently abandoned) which Senator Hayden immediately clarified (70 CONG. REC. 169 (1928)):

"Mr. Hayden. . . . The only thing required in this bill is contained in the amendment that I have offered, that there shall be apportioned to each State its share of the water. Then, who shall obtain that water in relative order of priority may be determined by the State courts.

"Mr. King. If the Senator means by his statement that the Federal Government may go into a stream, whether it be the Colorado River, the Sacramento River, or a river in the State of Montana,

¹⁰*Id.* at 2-4. During the 1930 hearings on the first appropriation bill for Hoover Dam Senator Hayden said: "Congress of the United States does not possess the power to divide the waters of rivers among States. That is a result which could only be accomplished by the States through compacts." He concluded that without a tri-state compact priority of appropriation would control the interstate allocation of interstate waters and that "once having acquired a prior right to its use, no other State can obtain the use of those waters" to be used by the All-American Canal and the aqueduct to the vicinity of Los Angeles. *Hearings on H.R. 12902 Before a Subcommittee of the Senate Committee on Appropriations*, 71st Cong., 2d Sess. 170-71 (1930), quoted in text at 161 *supra*.

On the Senate floor Senator Hayden reported that "constitutional lawyers in this body said that it was impossible for the Congress of the United States to divide the waters of rivers." 72 CONG. REC. 11170 (1930).

and put its powerful hands down upon the stream and say, 'This is mine; I can build a dam there and allocate water to whom I please, regardless of other rights, either suspended, inchoate, or perfected,' I deny the position which the Senator takes.¹¹

"Mr. Hayden. *The amendment that I have offered contemplates no such possibility.*" (Emphasis added.)

The Master quotes the ambiguity and omits the clarification.

Furthermore, that amendment was subsequently withdrawn (70 CONG. REC. 382 (1928)), and a new one specifying only the terms of a mandatory tri-state compact was later offered by Senator Hayden (*id.* at 387-88). The new Hayden amendment was not accepted into the bill until the tri-state compact provision was made permissive only, and not mandatory. (70 CONG. REC. 469 (1928); see Rep. 162-63.)

b. Senator Pittman

Senator Pittman, like Senator Hayden, was firmly convinced that Congress did not have the power to allocate the waters of the Colorado River.¹ Senator Pittman's remarks quoted by the Master (Rep. 155)²

¹¹(Footnote ours.) Senator King is the author of § 18 of the Project Act which preserves priority and equitable apportionment principles. See discussion *supra* pp. 146-47.

¹*E.g.*, 70 CONG. REC. 386, 468 (1928).

²70 CONG. REC. 471 (1928): "Mr. President, this question has been here now for seven years. The seven States have been attempting to reach an agreement. Apparently the Senate of the United States is about to reach an agreement as to what ought to be done. The Senate has already stated exactly what it thinks about the water. That might have been an imposition

are also taken out of context. Senator Pittman was debating with Senator Bratton the advisability of Congress' specifying in the second paragraph of section 4(a) the terms of a tri-state compact to which Congress would consent in advance of state ratification. Senator Bratton objected that the provision operated to hamper and restrict state sovereignty, even after it had been perfected at the suggestion of Senator Pittman to be permissive rather than mandatory. (See 70 CONG. REC. 469-70 (1928).) Senator Pittman made clear that his intent in authorizing the tri-state compact in advance was merely to prevent unnecessary delay in securing later congressional consent to a tri-state agreement (70 CONG. REC. 471-72 (1928)). Senator Johnson accepted the amendment only after receiving Senator Pittman's assurance that it was not "the will or the demand or the request" of Congress (70 CONG. REC. 472 (1928)).

c. Senators Walsh and Johnson

The confused colloquy between Senators Walsh and Johnson (Rep. 156-58) does not, as the Master erroneously states, "[make] clear that Congress intended that the Secretary of the Interior, in the exercise of the discretion vested in him by Section 5, could, by means of water delivery contracts, effectuate an interstate allocation, in default of allocation by the states themselves" (Rep. 156). Senator Walsh inquired whether the Secretary would be required to supply water to the city of Los Angeles because of the city's appropriation

on some States. Why do we not leave it to California to say how much water she shall take out of the river or leave it to Arizona to say how much water she shall take out of the river? It is because it happens to become a duty of the United States Senate to settle this matter, and that is the reason."

mentioned earlier by Senator Johnson (70 CONG. REC. 167), and Senator Johnson answered, "I rather think so" (Rep. 156). After the two Senators proceeded at cross-purposes for a while,³ Senator Walsh asked whether the Secretary could "utterly ignore those appropriations" to which Senator Johnson replied, "Possibly so." Senator Walsh obviously did not feel that his problem had been clarified since he concluded, "That is what I am curious to find out about." (Rep. 158.) It is clear that neither Senator was talking about rights which could have been satisfied from natural flow without Hoover Dam regulation.

Furthermore, at the time of the Walsh-Johnson colloquy, section 18, which expressly preserves priority and equitable apportionment principles (*supra* pp. 145-47) was not yet part of the Swing-Johnson bill. Section 18, which was accepted in the bill by Senator Johnson a week later (70 CONG. REC. 593), resolves all doubts. Senator Johnson had also announced earlier that under Project Act section 14 (then 13), water rights would be acquired and controlled by section 8 of the Reclamation Act which was incorporated in the Project Act by reference (*supra* pp. 148-50).

B. Section 8(b) Does Not Sustain the Master's Interpretation of Section 5

The Special Master suggests that section 8(b) of the Project Act (Rep. app. 389-90) supports his conclusion that Congress empowered the Secretary to impose upon

³Senator Walsh was inquiring about the rights of an appropriator as against the Government to the use of stored waters conserved by the dam. Senator Johnson was explaining the Secretary's right and obligation under § 4(b) to contract with financially responsible agencies to underwrite payment for the dam.

Arizona, California, and Nevada a federal apportionment of "mainstream" water by the execution of contracts to store and deliver waters impounded by Lake Mead (Rep. 151). The suggestion is based upon misinterpretations of both section 5 and section 8(b).

Section 8(b) provides that the United States and those claiming under it shall be "subject to and controlled by" the terms of a two- or three-state compact, between or among Arizona, California, and Nevada "for the *equitable division of the benefits, including power, arising from the use of water accruing to said States*" if that agreement were reached by the states and confirmed by Congress before January 1, 1929; the proviso to section 8(b) provides that if such an agreement were reached and confirmed by Congress after January 1, 1929, that compact would be "subject to"⁴ prior water and power contracts executed by the Secretary pursuant to section 5.

The Master's conclusion is based on two assumptions: (1) Congress delegated to the Secretary the power to allocate such water by water delivery contracts authorized in section 5, and (2) the compact contemplated by section 8(b) was an interstate compact for the allocation of water. Neither assumption can be sustained.

Section 5, as we have seen, was not a delegation of power to the Secretary to make interstate allocations of water by water delivery contracts; section 8(b) must be read in this context. The very language of section

⁴Cf. the language of § 8(a) that the United States shall be "subject to *and controlled by*" the Colorado River Compact (emphasis added) and the language in 8(b) preceding the proviso quoted above.

8(b), authorizing a compact between two or among three states for the "equitable division of the benefits, including power, arising from the use of water," is strikingly different from the language of the second paragraph of section 4(a) and section 19 which authorized interstate compacts for the apportionment of water.⁵

The manifest intent of Congress in enacting section 8(b) was to prevent the states, by compact, from distributing "benefits" among themselves in a way which might impair revenue contracts required to pay for the dam and reservoir—principally the power contracts authorized by sections 5(a), (b), and (c) to meet the requirements of section 4(b). California and Nevada wanted Hoover Dam power, Arizona did not. If two states wished allocations of Hoover Dam power, and the third did not, the two might agree upon the division between them. The section 8(b) compact among two or three states would have related to power or the price of water. This is the construction which Secretary of the Interior Wilbur appears to have placed upon section 8(b) in 1930.⁶

⁵Thus § 4(a) refers in unmistakable language to a compact apportioning the specified quantity of water "for exclusive beneficial use in perpetuity," and § 19 refers specifically to the "storage, diversion, and use of the waters of said river." See also the language of the act authorizing the negotiation of the Colorado River Compact in which Congress stated that the subject matter was to provide "for an equitable division and apportionment among the States of the water supply of the Colorado River and of the streams tributary thereto" 42 Stat. 171 (1921) (Ariz. Ex. 6 (Tr. 221)).

⁶This administrative construction is evidenced by an exchange of correspondence between Secretary Wilbur and Governor John C. Phillips of Arizona. On May 9, 1930, Secretary Wilbur wrote a letter to Governor Phillips in which he repeated Arizona's objection to the "Boulder Dam contracts" and in which he replied

If proponents of section 8(b)⁷ had attributed to the proviso of that section the interpretation which the Master derives, its legislative history would have been marked by hot debates about the inclusion of this language of section 8(b). In fact, the record on section 8(b) is singularized by relative silence.⁸

C. The Congressional Plan Is Wholly Contrary to That Deduced by the Special Master

The legislative history of the Project Act contradicts the Master's conclusion that Congress intended that act to be the source of authority for allocation of "main-

to that published objection. Secretary Wilbur said (Calif. Ex. 1835 (Tr. 12,256)):

"[Arizona interposes] an objection that the Boulder Dam contracts . . . have been concluded by the Secretary prior to the conclusion of negotiations between California and Arizona, which negotiations your Commission thinks might have resulted in a compact covering power questions as well as water. At any rate, I assume that that is why section 8(b) of the Project Act is quoted.

"
" The construction of this great work . . . is necessarily at a standstill until the Secretary signs the required power contracts, for, under the Act, no appropriations could be made before that time. I have now signed such contracts and made it possible for this work to proceed. But before doing so, not only did this Department wait until the states had had an opportunity under section 8(b) to compact on or before January 1, 1929, as the law allows, but I delayed my action until April 28, 1930, or thirteen months, after taking office, in the earnest hope that the states would be able to work out their problems. . . . Nevertheless, I did not accept that failure of the states to come together as being final, nor did I, by proceeding immediately with the power contracts, as I might have done, foreclose them from agreeing on the power question."

The letter also deals with Governor Phillips' objection to the Secretary's price—but not the quantity—of water delivered to Metropolitan.

⁷Section 8(b) was a Nevada proposal. See Calif. Ex. 1801 (Tr. 12,234), at 11-12 (then § 8(d); *Hearings on H.R. 6251 and H.R. 9826, supra* p. 178 note 4, at 183.

⁸See, e.g., *Hearings on H.R. 6251 and H.R. 9826, supra* p. 178 note 4, at 201-05; 69 CONG. REC. 9984 (1928) (House).

stream" water. Contrary to the Master's assertions,¹ the legislative history of the Project Act is almost unintelligible except on the premise that the legislators considered that they could *not* provide, in the Project Act, the authority for the federal allocation of impounded water among the states.

The Project Act must be construed in the light of the power which Congress intended to exercise.² Congress' repeated disclaimer of the existence of any power in it to allocate the waters of an interstate stream establishes beyond doubt that Congress did not intend to provide authority for a federal allocation of the waters of the Colorado River system.³

Moreover, the Project Act should be construed consistently with the legal atmosphere prevailing during the period in which that act was debated and passed. During that time this Court had made clear that Congress could constitutionally delegate power to an administrator only if adequate standards guiding the administrator were supplied in the statute;⁴ such standards are wholly absent from the Project Act as it is interpreted by the Master. Neither the terms of a nonexistent compact under section 8(b) nor the nugatory compact envisioned

¹"The congressional debates are almost unintelligible except on the premise that the legislators considered that they were providing, in the Project Act itself, the authority for the allocation of impounded water among the states." (Rep. 154.) The Master has confused administration of the dam and reservoir with the creation and dispensing of water rights.

²*Cf. Helvering v. Griffiths*, 318 U.S. 371 (1943).

³It is unnecessary for the purpose of ascertaining Congress' intent in 1928 to reach the constitutional question because Congress very clearly did not purport to exercise that power even if it could have done so.

⁴*J. W. Hampton, Jr. & Co. v. United States*, 276 U.S. 394 (1928).

by section 4(a), second paragraph, can supply standards to the Secretary; sections 14 and 18 are limited by the Master, incorrectly, to their intrastate effect (Rep. 217-18) and sections 8(a) and 13(b) and (c) are limited, correctly, to interbasin effect. By his construction of these sections, the Master has wholly eliminated standards controlling the Secretary's interstate allocation of water. The delegation to the Secretary would be invalid even under the most generous view taken as to the constitutional limits on legislative delegations of power. The Project Act, as we construe it, preserving equitable apportionment and priority principles, provides adequate standards to guide the Secretary sufficiently to satisfy the constitutional requirements laid down by this Court during that earlier era.⁵

It is entirely unreasonable to infer that Congress intended water allocations by these alternatives:

(1) Interstate compacts, approved by legislatures of the states, and consented to by Congress; or

(2) Secretarial allocations by contracts, not even required to be reported to the states or to Congress, which might be written with (a) individual water users, (b) public or private projects, or (c) with states.

The Master's conclusion is completely refuted by the manner in which Congress exacted the limitation on California's water rights. If the Master were correct about the authority Congress purportedly delegated to the Secretary, Congress would have imposed the limitation on California without the consent of any

⁵*E.g.*, *Panama Refining Co. v. Ryan*, 293 U.S. 388 (1935); *A. L. A. Schechter Poultry Corp. v. United States*, 295 U.S. 495 (1935).

state simply by directing the Secretary to observe that limitation in his water delivery contracts. Likewise, Congress would have imposed the Colorado River Compact simply and directly upon all Colorado River system waters without ratification by any state. Congress did not do so, and the legislative history does not reveal any serious suggestion by any congressman or by any state that Congress should or could do so. Rather, Congress employed a consensual plan under which the limitation was imposed and the Compact made effective, not solely by Congress, but with the concurrence of six states including California's enactment of the California Limitation Act (*supra* pp. 128-37).

PART FOUR

THE SECRETARY'S WATER DELIVERY CONTRACTS DO NOT ESTABLISH ANY FRAGMENTAL "CONTRACTUAL ALLOCATION SCHEME"

The Master concludes (1) that Congress intended to authorize the Secretary to make an interstate allocation of "mainstream" water, and (2) that successive Secretaries of the Interior made that allocation by imposing upon Arizona, California, and Nevada substantially the terms of a tri-state compact which each of those states refused to ratify.¹

I. THE MASTER'S REASONING REFUTES ITSELF: CALIFORNIA AGENCIES CANNOT BE ASSUMED TO HAVE ACCEPTED A "FEDERAL APPORTIONMENT" MORE ADVERSE TO CALIFORNIA THAN THE TRI-STATE COMPACT THAT CONGRESS REFUSED TO REQUIRE AND THAT CALIFORNIA REFUSED TO RATIFY

The "contractual allocation scheme" (Rep. 233) perceived by the Master allocates to California less water than she would have received if the tri-state compact authorized by the second paragraph of section 4(a) had been ratified: California does not get an apportionment in perpetuity of 4.4 million acre-feet of the first 7.5 million acre-feet of "Article III(a) water."

¹The Master asserts that the Secretary deliberately followed the terms of the tri-state compact authorized in § 4(a) of the Project Act in making the interstate allocation attributed to him by the Master, although no such compact has ever been agreed to. (Rep. 163, 222-24.) If the tri-state compact had been ratified, the Secretary's contracts were required to conform to it by the terms of § 5 (Rep. app. 384-85). In the absence of ratification, there was no such direction (Rep. 162-63).

but merely a fractional interest—44/75 of “mainstream” water;² California does not bear one half of the Mexican burden,³ but 44/75 ($58\frac{2}{3}$ per cent) of that burden. It is incredible that the California agencies voluntarily entered into water delivery contracts which effectuated an apportionment to them upon terms, far less favorable than the terms of the tri-state compact to which they were opposed.⁴

II. THE GENERAL REGULATIONS PROMULGATED BY THE SECRETARY OF THE INTERIOR PURSUANT TO THE PROJECT ACT REFUTE THE INFERENCE THAT THE SECRETARY CREATED ANY “CONTRACTUAL ALLOCATION SCHEME”

If the Secretary of the Interior had intended to create an interstate allocation “scheme” of this importance, one would expect to find at least the major elements of that scheme on paper, in one place, formally promulgated. No such writing exists. The General Regulations written by the Secretary contradict any inference that the Secretary created any “contractual allocation scheme” to apportion “mainstream” waters.

²The Master assumes that if the tri-state compact authorized by the second paragraph of § 4(a) had been ratified, California would have been granted, on a parity with Arizona and Nevada, her apportionment coextensive with the limitation specified in the first paragraph of § 4(a), even though he denies that the first paragraph of that section can be interpreted as a grant (Rep. 231). The second paragraph of § 4(a) unmistakably specifies the apportionments in perpetuity to Arizona and Nevada (no apportionment was made to any other state) from the first 7.5 million acre-feet of “Article III(a) water” in terms of acre-feet, not in ratios or fractions.

³See clause (4) of the second paragraph of § 4(a) (Rep. app. 383).

⁴No one has suggested that the California agencies, during the period 1930-1934 when the contracts were executed, entered into those contracts involuntarily.

Section 5 of the Project Act authorizes the Secretary of the Interior to prescribe general regulations governing the writing of two different kinds of contracts: (1) The first paragraph refers to regulations in respect of contracts for the storage of water in the reservoir and delivery thereof, at such points as may be agreed upon, for irrigation and domestic use; and (2) the third paragraph refers to regulations in respect of contracts for the storage and delivery of water for generation of electrical energy and delivery thereof at the switchboard to stated contractees. Congress carefully distinguished the two categories of contracts and carefully distinguished the kinds of regulations which the Secretary was authorized to prescribe for each. The authorization to promulgate general regulations in respect of the first category is permissive;⁵ the second category is mandatory (Rep. app. 385):

“General and uniform regulations *shall* be prescribed by the said Secretary for the awarding of contracts for the sale and delivery of electrical energy” (Emphasis added.)

Contracts for the sale and distribution of power make interstate allocations; accordingly, Congress provided specific directions to the Secretary of the Interior relating to the order of preference for power applicants,⁶

⁵The first paragraph of § 5 provides that the Secretary “is hereby authorized, under such general regulations as he *may* prescribe, to contract for the storage of water . . . and for the delivery thereof . . . for irrigation and domestic uses” (Emphasis added. Rep. app. 384.)

⁶Section 5(c) provides, in part (Rep. app. 386) that preference among applicants “for the use of water . . . necessary for the generation and distribution of hydroelectric energy, or for delivery at the switchboard . . . shall be given, first, to a State for the generation or purchase of electric energy for use in the State, and the States of Arizona, California, and Nevada shall be given equal opportunity as such applicants.”

and the factors expressly to be taken into account in entering into such contractual allocations.⁷

The Secretary is authorized to allocate power interstate, but only for 50 years, subject to certain rights of renewal on terms fixed by Congress (section 5(a) and (b), Rep. app. 385).

The regulations which the Secretary promulgated reflect exactly the statutory distinction between the Secretary's specific authority to make an interstate allocation of the use of falling water for power generation and his lack of authority to make an interstate allocation of water for consumptive use.

The Secretary promulgated General Regulations governing the storage and delivery of water for consumptive use April 23, 1930,⁸ and for the use of water for generation of power two days later.⁹

The power regulations make a detailed allocation among Arizona, Nevada, and the California power contractors, reserving 36 per cent of the energy for Arizona and Nevada, which they may commence to take at any time within 50 years, but which California's contractors must take, or pay for even if not taken,

⁷The unlettered paragraph following § 5(c) (Rep. app. 386-87) thus provides that "no application of a State . . . for an allocation of water for power purposes or of electrical energy shall be denied . . . on the ground that the bond issue of such State . . . necessary to enable the applicant to utilize such water and appurtenant works . . . necessary for the generation and distribution of . . . energy . . . has not been authorized or marketed, until after a reasonable time . . . has been given to such applicant to have such bond issue authorized and marketed."

⁸Sp. M. Ex. 4 for iden. (Tr. 255) at A485.

⁹*Id.* at A237.

meanwhile. Metropolitan Water District is allocated 36 per cent of the firm energy to be used only for pumping water through its aqueduct.¹

But the water regulations, under which Metropolitan Water District was to (and does) receive the water to be pumped through its aqueduct, make no interstate allocation whatever. They are completely silent on the subject.²

The only other water regulations which have ever been promulgated under the Project Act were those of Secretary Wilbur, dated February 7, 1933³ (withdrawn by Secretary Ickes later that same year),⁴ authorizing a contract with Arizona. These do not make an interstate allocation. To the contrary, article 10(c) of that proposed contract was authorized by the regulations to provide:⁵

“[T]his contract is without prejudice to relative claims of priorities as between the State of Arizona and other contractors with the United States,

¹*Ibid.* The power regulations were amended from time to time in 1930 and 1931, but the interstate allocation of power was unaffected.

²The water regulations were amended in 1931 to incorporate the Seven-Party Agreement. See Calif. Ex. 1811 (Tr. 12,244), quoted in Sp. M. Ex. 4 for idem. (Tr. 255) at A487. It is significant that this amendment did make one interstate provision, and one only: The Secretary reserved the authority, if he should allow Metropolitan, the City of Los Angeles, and the City and/or County of San Diego to accumulate unused water to its credit in the reservoir, “to make similar arrangements with users in other States without distinction in priority, and to determine the correlative relations between [those California agencies] . . . and such users resulting therefrom.” *Id.* § 6 (“Sec. 8” and “Sec. 9”), at A488-89; see Rep. 102 n.23. He has not done so.

³Ariz. Ex. 28 (Tr. 244).

⁴Ariz. Ex. 29 (Tr. 244).

⁵*Supra* note 3, at 276.

and shall not otherwise impair any contract heretofore authorized by said regulations."

Article 10(c) cited the regulation of April 23, 1930, amended September 28, 1931, which incorporates the Seven-Party Agreement pursuant to which the California contracts had been made.⁶

It is clear from section 5 of the act that Congress never intended to authorize the Secretary to make an interstate allocation of "mainstream" water,⁷ but even if it were assumed, *arguendo*, that Congress did have that intention, it is nevertheless plain that the water delivery contracts executed by successive Secretaries of the Interior do not create the "contractual allocation scheme" (Rep. 233) deduced by the Master.

III. NONE OF THE ELEMENTS OF THE MASTER'S CONTRACTUAL ALLOCATION SCHEME ARE FOUND IN THE WATER DELIVERY CONTRACTS THEMSELVES

Read severally or together, forward or backward, these contracts do not contain, either expressly or by implication, the ingredients of the "contractual allocation scheme" the Master describes. Moreover, the contracts, as they were written, do not purport to effectuate the apportionment which the Master finds by his construction of section 4(a) of the Project Act.

The Master deduces the "contractual allocation scheme" from the limitation upon California and from two water delivery contracts: one of the two contracts executed with the State of Nevada and one with the

⁶*Supra* note 2.

⁷See Part Three *supra* pp. 140-94, especially 168-82.

State of Arizona, striking out, however, certain of the provisions of those contracts, and reading the contracts, as thus redrawn, against section 4(a) of the Project Act as he construes that section (Rep. 222-27). In fact, however, the "mainstream" picture is far more complex: Users in Arizona and California have received "mainstream" waters under a myriad of water delivery contracts and water right applications, founded upon the entire reclamation law; others have received "mainstream" waters without a contract of any kind. (*Infra* plate 3; *supra* pp. 152-58.) Water rights have been founded upon such diverse bases as appropriations (*e.g.*, appendix, pp. A4-5, A10, A13-14, A28-29) and federal reservations (see Rep. 254-66). The Master recognizes that there is no water delivery contract with the State of California; rather, the Secretary contracted with a number of agencies within the state (Rep. 207-08).

These diverse rights and obligations originated over a period of several decades from 1910 to 1960 in unrelated transactions with parties who were strangers to one another. The *ex post facto* rearrangement of all of those rights and obligations into one comprehensive interstate structure based solely on Secretarial contracts executed pursuant to the Project Act is inconsistent, not only with their terms, but with each step which brought them into existence.

A. The Delivery Contracts Do Not Purport To Apportion to Any State the Quantities Specified by the Master

None of the contracts as they were written oblige the Secretary to deliver to any state the quantities (much less the fractions) recited by the Master.

The Arizona contract did not require the Secretary to deliver 2.8 million acre-feet; it required the Secretary

to deliver up to 2.8 million acre-feet, but that figure, under the express terms of the contract, could never have been reached because it is explicitly subject to deductions for certain losses, for uses by Arizona above Lake Mead that diminish the flow into Lake Mead, and for uses in recognition of rights of New Mexico and Utah.⁸ The 50 per cent of "excess or surplus" is likewise subject to reduction, not only in favor of Nevada, but also in favor of Utah and New Mexico.⁹

The two Nevada contracts specify that the Secretary will deliver, not .3 million acre-feet, but that quantity of water which together with "all other waters diverted for use within the State of Nevada from the Colorado River system" would equal .3 million acre-feet. No provision is made in the Nevada contract for delivery to her of any water over and above the .3 million acre-foot ceiling.¹⁰

The Master recognizes that these deductions in the Nevada and Arizona contracts destroy the assumed correlation between the "contractual allocation scheme" and

⁸Ariz. contract art. 7(b), (d), and (g); Rep. app. 401, 402. The Master invalidates article 7(d) (Rep. 237-47). In the Central Arizona Project report, the quantity of the deduction required under article 7(g) for uses in New Mexico and Utah was stated, under interpretations then advanced by Arizona, as 130,000 acre-feet annually. Ariz. Ex. 71 (Tr. 310, 3,513, 3,520-21), at 150-51.

⁹Ariz. contract art. 7(b), 7(g), Rep. app. 401, 402.

¹⁰The first water delivery contract with Nevada was executed March 30, 1942, calling for delivery of "so much water as may be necessary to supply the State a total quantity not to exceed" 100,000 acre-feet per annum. (Nev. contract art. 5(a), Rep. app. 410.) The second Nevada contract, executed in 1944, amended the prior contract by increasing the ceiling from .1 to .3 million acre-feet, including "all other waters diverted for use within the State of Nevada from the Colorado River system." (Nev. contract art. 4, Rep. app. 420, amending art. 5(a) of the 1942 contract.)

the contracts as they were written; he attempts to avoid the difficulty by invalidating some of the offending provisions (Rep. 237, 241, 246-47). We agree with the United States that those provisions are clearly valid.¹¹

The California contracts, considered severally or together, do not require the Secretary to deliver to California 4.4 million acre-feet of consumptive use and one half of any excess or surplus waters from the "mainstream." On the contrary, the California contracts provide for the delivery to specified California projects of the aggregate quantity of water sufficient to satisfy 5,362,000 acre-feet of consumptive use annually (see Rep. 208, 222, 223-24); that quantity also includes water sufficient to supply Indians, who neither have nor need contracts (Rep. 312 n.3a), and non-Indians, on the Reservation Division of the Yuma Project in California, who hold only individual water right applications (plate 3 *infra* note 7); it does not include water for the other federal reservations in California.

It is apparent that these contracts as they were written cannot "fix" the "proportions" 4.4, 2.8, and .3 which the Master uses in creating his proposed "contractual allocation scheme," because the Secretary did not fix those quantities in the contracts.

Moreover, as the Master recognizes, the California contracts do not call for the delivery of half of surplus (Rep. 223).¹²

¹¹See U.S. Exception II.

¹²The Master attempts to avoid this difficulty by implying a reservation of one half of surplus for California from a reservation in Arizona's contract for the benefit of Nevada (Rep. 223). The Master thus attributes to the Secretary of the Interior a bizarre method of making an allocation to California, 14 years after he executed the California contracts.

B. The Circumstances Surrounding the Execution of the Water Delivery Contracts Belie the Existence of a "Contractual Allocation Scheme"

The first water delivery contract executed by the Secretary pursuant to the Project Act was the Secretary's contract with Metropolitan Water District calling for delivery to the district of 1,050,000 acre-feet per annum of beneficial consumptive use. Shortly before the execution of that contract, Secretary of the Interior Wilbur expressly disclaimed any intention to deal with the allocation of lower basin waters,¹ a position continuously maintained by Secretary Wilbur and by subsequent Secretaries of the Interior.²

If, despite the Secretary's disclaimer, there was a contractual allocation scheme in existence in 1930, what was it? Was California irrevocably allocated 1,050,000 acre-feet of consumptive use? Was California irrevocably allocated 1.05/7.5 of "mainstream" water exclusive of federal reservations? For whom was the "unallocated" water reserved?

¹See, e.g., Calif. Ex. 7553 for iden. (Tr. 22,760).

²See, e.g., Calif. Exs. 7601, 7602, 7604, 7605, 7606, 7607, 7608, 7859, 7509, all for iden. (Tr. 22,760), and Calif. Ex. 1837 (Tr. 12,257), *infra* p. 211 note 5. Upon every opportunity, successive Secretaries of the Interior have disclaimed intention to make any interstate allocations; thus, in 1952, Secretary of the Interior Chapman made clear that no allocation should be inferred from his creating the Master Schedule (the document which translates delivery obligations into actual deliveries of water from Imperial Dam, serving projects in both California and Arizona). In his contract with Imperial Irrigation District, providing for the preparation of that schedule, the Secretary declared: "The preparation and approval of a Master Schedule by the Bureau of Reclamation or the Secretary shall not constitute an administrative determination, finding or recommendation as to the water to which any agency is entitled." (Ariz. Ex. 37 (Tr. 250), at 100.)

In 1933, Secretary Wilbur promulgated regulations (Ariz. Ex. 28 (Tr. 244)) authorizing a water contract with Arizona, which said nothing about excess or surplus. Was this a Secretarial allocation? Secretary Ickes revoked the regulations. (Ariz. Ex. 29 (Tr. 244).) What was the Secretarial allocation then?

By 1934, contracts had been executed with California users recognizing rights in California projects for the delivery of water for 5,362,000 acre-feet of consumptive use annually. The contracts themselves, however, do not add up to 5,362,000 acre-feet. That figure includes the rights of the Yuma Project recognized as entitled to a second California priority, but no contract for the project has ever been written. What Secretarial allocation scheme could then be perceived?

In 1942, when the Secretary executed his first water delivery contract with Nevada calling for delivery of up to 100,000 acre-feet of diversions, did the Secretary forever fix the proportion in which Nevada could share "mainstream" water? In 1944, when the Secretary executed a supplementary water delivery contract with Nevada, allocating no part of the excess or surplus water to Nevada, did the Secretary forever allocate, by reservation, 50 per cent of the surplus waters to Arizona? If so, how did Nevada get back 4 per cent when Arizona's water delivery contract was executed later in that year?

If successive Secretaries of the Interior created the "contractual allocation scheme" attributed to the Secretary by the Master, is it not extraordinary that the existence of that scheme utterly escaped the attention of this

Court in three prior cases and in deciding the joinder motion in this case, of the states of Arizona,³ Nevada, California, New Mexico, and Utah, of the United States, and of Congress^{3a} during more than 30 years of continuous exegesis of the documents upon which this theory rests?

IV. CALIFORNIA'S RIGHTS UNDER THE SECRETARY'S CONTRACTUAL ALLOCATION, IF HE MADE ONE, ARE CONTROLLED BY THE PROPER INTERPRETATION OF THE LIMITATION ACT, TO WHICH THE CONTRACTS ARE NECESSARILY SUBJECT

If it were assumed that the Secretary of the Interior made an "allocation" to California by the execution of a series of water delivery contracts with public

³The existence of this scheme surely eluded Arizona when in January 1944 she filed a statement with the Secretary of the Interior in support of her (then proposed) water delivery contract, stating: "Arizona does not view this contract as a substitute for the Tri-State Compact between Arizona, California and Nevada, authorized in the Boulder Canyon Project Act." Calif. Ex. 7511 for *iden.* (Tr. 22,760) at 29.

^{3a}See, e.g., *Hearings on H.R. 5434 Before the Committee on Irrigation and Reclamation*, 79th Cong., 2d Sess. (1946), Calif. Ex. 7760 for *iden.* In those hearings on reauthorization for the Gila Project, Charles A. Carson, representing Arizona, made very clear that Arizona did not interpret her water delivery contract as an allocation to Arizona of 2.8 million acre-feet of "mainstream" water. Mr. Carson told the committee:

"We have been talking also of the 2,800,000 acre-feet of water to be delivered to Arizona by this contract. That is not the exact amount; it is subject to reductions by virtue of the use in those portions of Utah and New Mexico which are in the lower basin, and by some other matters" (*Id.* at 402.)

Among the "other matters" which constituted deductions from that 2,800,000 acre-foot delivery obligation were Arizona's uses on the Gila River system (*id.* at 422, 433). Arizona's then position was that uses on the Gila up to 1,000,000 acre-feet were identified with Article III(b) of the Colorado River Compact; uses on the Gila in excess of 1,000,000 acre-feet were deductions from the 2,800,000 acre-feet deliverable from the main stream (*id.* at 421, 422, 443, 444, 519).

agencies in this state, the Secretary must have intended to allocate to California as much water as she could use within the limitation imposed by the first paragraph of section 4(a) of the Project Act and the reciprocal California Limitation Act (see Rep. 313). If that "allocation" were made, it was made consistently with the construction universally (until 1960) attributed to the limitation. The definitions of the Colorado River Compact are incorporated in the limitation. As we have seen (Part Two *supra* pp. 69-137), that limitation permits a consumptive use in California of (1) 4,400,000 acre-feet per annum whenever the total consumptive use from the Colorado River system (main stream and tributaries) in the lower basin is 7,500,000 acre-feet per annum, and (2) one half of the total consumptive use of such waters in excess of 7,500,000 acre-feet per annum, not to exceed 962,000 acre-feet per annum.

The Secretary must have recognized what every member of Congress who addressed himself to the problem had recognized from the first moment that the possibility of a self-limitation on California was suggested in the United States Senate: California's right would be practically coextensive with California's limitation. This arises from the great geographical fact of life, that California's lands can be served by gravity canals, whereas large expansion of irrigation use in Arizona requires 1,000-foot pump lifts comparable to the proposed Central Arizona Project, or great tunnels through mountain ranges. Only large domestic and industrial water projects can be made self-financing for out-of-basin use, and the only such project is one for southern California population centers.

This is what the Secretary did: On November 5, 1930, the Secretary requested from the State of California and its Colorado River water users a recommendation as to the division of Colorado River waters in California.⁴ Pursuant to this request, on August 18, 1931, the defendant public agencies of the state entered into the Seven-Party Agreement⁵ which the Division of Water Resources of the State of California recommended to the Secretary as a uniform schedule of priorities to be included in all water delivery contracts with users in California.⁶ On September 28, 1931, the Secretary promulgated amended General Regulations, incorporating in article 6 thereof the recommended schedule of priorities from article I of the Seven-Party Agreement.⁷ Thereafter, between 1931-1934, the Secretary entered into water delivery contracts with the California public agencies in accordance with the General Regulations so promulgated and the Seven-Party Agreement. (See Rep. 28; Rep. app. 424-28.) These water delivery contracts, in accordance with the regulations, recognized rights in California to 5,362,000 acre-feet per annum for consumptive use (Rep. 207-08), including the second priority right of the Reservation Division of the Yuma Project which has no contract except individual water right applications executed before and after 1929. (Rep. 212.)

⁴Calif. Ex. 1810 (Tr. 12,244), text in Sp. M. Ex. 4 for iden. (Tr. 255), app. 1002, p. A477.

⁵Ariz. Ex. 27 (Tr. 242), the effect of which is tabulated in the appendix, p. A3.

⁶Calif. Ex. 1811 (Tr. 12,244), art. 6, text in Sp. M. Ex. 4 for iden. (Tr. 255), pp. A487-89.

⁷*Ibid.*

Thus, by October 15, 1934, when the last California water delivery contract had been executed,⁸ if not earlier,⁹ the Secretary—had he been authorized to allocate interstate rights to the consumptive use of “mainstream” water by water delivery contracts—had allocated to California (1) the consumptive use of 4,400,000 acre-feet per annum of “mainstream” water in any year that systemwide consumptive use in the lower basin totaled 7,500,000 acre-feet,¹ and (2) one half of the quantity of consumptive use throughout the system in the lower basin in excess of that 7,500,000 acre-feet per annum, but not to exceed 962,000 acre-feet per annum. That allocation to California is consistent with the provisions of the limitation upon California expressly incorporating the systemwide scope of the Colorado River Compact and, therefore, consistent with the requirement of section 5 of the Project Act that water delivery contracts should “conform to paragraph (a) of section 4 of this Act” (Rep. app. 385).

Section 5 of the Project Act expressly requires that such contracts shall be “for permanent service” (Rep. app. 385; see Rep. 238-40). Therefore, after the Secretary made that “allocation” to California, he could not derogate his own grant by allocating part of the water,

⁸Ariz. Ex. 37 (Tr. 250); Rep. 28.

⁹On February 7, 1933, the Secretary promulgated regulations with the copy of a proposed water delivery contract with Arizona appended (Ariz. Ex. 28 (Tr. 244)), but these were withdrawn less than five months later (Ariz. Ex. 29 (Tr. 244)) without any contract having been executed thereunder.

¹The issue of how shortages are to be borne under a Secretarial allocation if there is less than 7,500,000 acre-feet per annum of consumptive use is treated *infra* pp. 211-31.

committed to California in 1930-1934, to Nevada in 1942 and 1944,² and to Arizona in 1944.³

The Secretary clearly indicated his intention not to impair prior "allocations" of water to California. The Arizona contract expressly recognizes the rights of the United States and California "to contract for storage and delivery of water from Lake Mead for beneficial consumptive use in California," providing the aggregate of all deliveries and uses in California do not exceed the ceiling upon California's uses imposed by the limitation.⁴ Moreover, article 10 of the Arizona contract (Rep. app. 405) provides expressly that all provisions of the contract are without prejudice to contentions of other states and water users, *inter alia*, about—(1) the intent, effect, meaning, and interpretation of said [Colorado River] compact and said [Project] act; (2) what part, if any, of the water used or contracted for by any of them falls within Article III(a) of the Colorado River Compact; (3) what part, if any, is within Article III(b) thereof; (4) what part, if any, is excess or surplus waters unapportioned by said Compact; and (5) what limitations on use, rights of use, and relative priorities exist as to the waters of the Colorado River system." The controversy which the Secretary thus disclaimed intent to resolve was the controversy about what the Colorado River Compact meant; all interested

²Ariz. Exs. 43 (Tr. 253) and 44 (Tr. 254); Rep. app. Nos. 6, 7.

³Ariz. Ex. 32 (Tr. 248); Rep. app. No. 5.

⁴*Id.* art. 7(h), Rep. app. 402.

parties then agreed that the Compact was incorporated into section 4(a) of the Project Act.⁵

V. SHORTAGES IN "ARTICLE III(a) WATERS"* ARE BORNE INTERSTATE UNDER PRIORITY AND EQUITABLE APPORTIONMENT PRINCIPLES; THE CONTRACTS DO NOT PURPORT TO SUBSTITUTE PRORATION

The Special Master concludes that his "contractual allocation scheme . . . requires each state to share the burden of the shortage ratably" (Rep. 233). If there is a "contractual allocation scheme," we deny that it controls this issue, or, if it does, that it adopts any principles other than those of priority and equitable apportionment.

A. Priority and Equitable Apportionment Principles Control the Burden of Bearing Shortages, Interstate, in "Article III(a) Waters"*

If there is a "contractual allocation scheme," it is completely silent on whether priority or proration controls the interstate burden of bearing shortages, with

⁵See, *e.g.*, the Secretary of the Interior's announcement on the signing of the Arizona contract: "Bureau [of Reclamation] representatives under my instructions have taken the position through the negotiations [of the Arizona contracts] that any contract proposed should not commit the Department as to any controversial issue regarding the amounts of water available to Arizona, or to any compact state, under the compact and the act." Calif. Ex. 1837 (Tr. 12,257), p. 4. See also Calif. Exs. 7601, 7602, 7604, 7605, 7606, all for *iden.* (Tr. 22,760), interdepartmental correspondence and memoranda, specifying unmistakably that the "controversial" issue was the dispute over the meaning of the Colorado River Compact provisions which were incorporated into the Project Act. Calif. Ex. 7607 for *iden.* is a memorandum issued by Secretary of the Interior Ickes, February 9, 1944, reiterating the department's position explicated in Calif. Exs. 7601, 7602, 7604, 7605, 7606, all for *iden.* (Tr. 22,760).

*"Article III(a) waters" is used for convenience instead of the phrase "waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact."

two significant exceptions: (1) the Secretary expressly provided proration of any "excess or surplus waters" (California is limited to one half thereof, up to 962,000 acre-feet per annum; Arizona is "allocated" one half thereof, subject to a reduction of one twenty-fifth (four per cent) for Nevada); (2) the California contracts accord to Metropolitan Water District (including the merged rights of Los Angeles and San Diego) the right "so far as the rights of the [California] allottees . . . are concerned" to accumulate water up to a stated quantity in the reservoir by reason of reducing diversions by the district, subject to two provisions, the second of which is "that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the correlative relations between said District . . . and such users resulting therefrom."¹ No such arrangement was included in the Arizona contract.²

The Master correctly states that "the requirement of permanent service in section 5 seems to have been intended to instruct the Secretary to contract for water deliveries in such a way as to assure users, as far as is physically possible, of a stable supply of water" (Rep. 239). The physical and climatic conditions in the Colo-

¹See Rep. app. 426-27, art. 6, §§ 8-9, of Palo Verde Irrigation District contract, which is included in the Secretary's regulations and in all of the California contracts. (See Rep. 28 n.96.)

²See Calif. Ex. 1838 (Tr. 12,261), an opinion by Solicitor Margold of the Department of the Interior (approved by the Assistant Secretary) published in 1934 (54 L.D. 593), which concludes that a similar storage provision in a contemplated Arizona water delivery contract "is violative of the Boulder Canyon Project Act and the Colorado River Compact, and that the Secretary is without authority to approve its inclusion in the contract" (p. 6).

rado River basin compel this conclusion (Rep. 238-39). These are the very factors which engendered and spread the appropriation doctrine throughout the arid West (Part One *supra* pp. 54-64). The same considerations must have motivated the Secretary of the Interior in administering a body of law of which the Project Act is one "supplement," and in which the dominant statutory direction since 1902 had been that "beneficial use shall be the basis, the measure, and the limit of the right."³

The only proper inference is that the Secretary did not intend to modify the existing law (principles of priority and equitable apportionment) to control the interstate burden of any shortages except when his contracts expressly so provided.⁴ Thus, under the "contractual allocation scheme," the burdens of any shortages in the "Article III(a) waters" are borne under those settled principles of western water law.

Finally, it should be noted that priority principles can readily be made a part of any "contractual allocation scheme." This is demonstrated by the Master's scheme in which "priority of 'present perfected rights' regard-

³Section 8 of the Reclamation Act of 1902, 32 Stat. 390, 43 U.S.C. §§ 372, 383 (1958), discussed *supra* pp. 62-66, 150-52.

⁴The Master applies the correct principle of construction in construing that part of article 7(d) of the Arizona contract providing for reduction of the delivery obligation for evaporation, reservoir and river losses, stating: "As I construe this provision, questions of allocation of losses are expressly left undetermined by the contract; such determination is to be made on the basis of the Compact and Project Act, without reference to other terms of the contract" (Rep. 206). We would apply the same principle to allocation of shortages, adding that the determination is to be made by reference to principles of appropriation, the existing law.

less of state lines" controls the allocation of water "in the extremely improbable event that releases [from Lake Mead] do not satisfy the rights perfected in any of the states [of Arizona, California, and Nevada] as of the effective date of the Act" (Rep. 312).

There are a number of alternative procedures available to the Court to make the requisite determinations of whatever interstate priorities are recognized by this Court which would not unduly delay or complicate the resolution of this controversy:

(1) The Court may adopt the machinery proposed by the Special Master for determination of "present perfected rights." The Master's proposed decree establishes the machinery to determine "present perfected rights" in Arizona, California, and Nevada (Decree art. VI (Rep. 359)) under the decision proposed by the Special Master (Decree art. II(B)(5) and (6) (Rep. 348-49)). This same machinery can be retained and expanded, if necessary, to determine the relevant priorities.

(2) The Court may refer the matter to a Special Master to make those determinations from the record with authority to supplement the record as may be necessary or desirable and report his findings and conclusions to the Court.

(3) The Court may make those determinations from the record. (See *infra* tables 1, 2, and 3.)

B. The Master's Conclusion That Shortages in "Article III(a) Waters" Are Borne Pro Rata Is Based Upon Inferences Improperly Drawn From Erroneous Constructions of the Controlling Documents

The Master's conclusion that shortages in "Article III(a) waters" from the "mainstream" are borne pro rata according to the "contractual allocation scheme" is reached solely upon the basis of a series of inferences improperly drawn from erroneous interpretations of the Colorado River Compact, the Boulder Canyon Project Act, and the water delivery contracts.⁵ The Master does not find any express provision to that effect in any of these documents, and there are none. These documents neither abolish priorities nor authorize the creation of an antithetical federal system of water rights. The Master's conclusion to the contrary is based upon erroneous inferences drawn from the following six assumed factors (Rep. 232-37):

1. Proration of "excess or surplus" by the "contractual allocation scheme."

⁵Even the Master's scheme must permit the operation of priority principles to a limited extent beyond "present perfected rights." The Master provides (correctly) that water apportioned to but unused in one state may be released for consumptive use in other states (Rep. 314, Decree art. II(B)(8) (Rep. 349-50)). For example, what law other than priority and equitable apportionment is to control competing claims of Arizona and California to water apportioned to, but unused in, Nevada? The contracts do not even purport to deal with these waters.

The Master also resorts, by necessity, to the priority principle when he says that California is entitled by contract to "4.4 million acre-feet of the *first* 7.5 million acre-feet of consumptive use of water from the mainstream in one year." (Rep. 222. Emphasis added.) He refers, of course, to the first 7.5 million acre-feet, the rights to which are prior to any rights in "excess or surplus," and not to the chronologically first 7.5 million acre-feet used after January 1 of each year. The Master demonstrates that even if there were no principle of priority, it would be necessary to create one.

2. "Present perfected rights" provision in section 6 of the Project Act.

3. Approval of the Colorado River Compact by the Project Act.

4. The tri-state compact set forth in the second paragraph of section 4(a) of the Project Act. ☞

5. The principle of "sovereign parity."

6. Administrative construction.

In each instance the Master misconstrues the documents involved, and he draws the wrong inferences from them.

1. *Proration of "Excess or Surplus" by the "Contractual Allocation Scheme"*

In support of his argument for parity in the "Article III(a) waters," the Master relies upon the proration of "excess or surplus" required by his contractual allocation. The Master says that there is nothing in the Project Act, with the exception of the "present perfected rights" provision in section 6,⁶ or in the water delivery contracts, "which suggests that a similar parity as between the states does not prevail if there is less than 7.5 million acre-feet of consumptive use to be apportioned among them." (Rep. 234.)

The Project Act does not establish parity since it merely requires California's rights in "excess or surplus" to be *limited* to one half; it is not a source of right. (Rep. 231.) Suppose there were 2 million acre-feet of surplus, and Arizona had prior appropriations therein of 1.5 million acre-feet. The limitation would not be operative, and Arizona would receive 1.5 million acre-feet; priority would rule both sides of the river. The "excess

⁶We deal with the Master's treatment of this provision *infra* pp. 217-21.

or surplus" limitation on California has the effect of proration only because it happens that California's rights in "excess or surplus" would, but for the limitation, exceed one half thereof. The words of the limitation are "*not more than* one-half of any excess or surplus waters." (Emphasis added.)

But if there were a "contractual allocation scheme" which requires proration of "excess or surplus," the contrasting silence in the statute and all its legislative history about how shortages in the "Article III(a) waters" would be borne permits only the inference that proration was not intended therein and that priority under equitable apportionment principles was either left undisturbed or adopted by the Secretary. The Master weighs silence on the wrong side of the scale.

2. "*Present Perfected Rights*" Provision in Section 6 of the Project Act

The Master asserts that section 6 of the Project Act⁷ requires the Secretary of the Interior, in event of shortage, to supply "present perfected rights" as against all other rights, and to protect these rights in order of priority. He defines "present perfected rights" as the quantity of water put to use prior to June 25, 1929, and the quantity impliedly reserved by the United States for federal reservations prior to that date (Rep. 306-12). The Master concludes that if Congress had intended priority to otherwise govern interstate rights, Congress would have said so, and that Congress did not say so.

⁷Section 6 provides in pertinent part (Rep. app. 387): "That the dam and reservoir provided for by section 1 hereof shall be used: First, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses and satisfaction of present perfected rights in pursuance of Article VIII of said Colorado River compact; and third, for power."

(Rep. 234-35.) This is exactly the opposite type of inference which the Master asks the Court to draw from the proration of "excess or surplus" and the silence about bearing shortages in "Article III(a) waters." (*Supra* pp. 216-17.)

The Master overlooks the essential fact that "present perfected rights" are not the creation either of the Colorado River Compact or of section 6 of the Project Act. They are preexisting rights under equitable apportionment and appropriation principles, recognized in both Compact and Project Act.⁸

The Master has converted the shield which Article VIII of the Compact and section 6 of the Project Act intended to create for existing projects and going economies into a sword which he would use for their destruction. The statutory inference he draws from section 6 is contradicted expressly by three provisions:

The first is section 18 of the Project Act which preserves the rights of the states with respect to "the appropriation, control, and use of waters within their borders,

⁸The Master suggests (Rep. 234) that "it is quite possible that a right 'perfected' as of June 25, 1929, and thus protected by section 6 is junior in priority to a right recognized under state law but not 'perfected' as of that date. In such a case, section 6 would reverse the order of state priorities." Nothing in the record suggests this possibility. Only eight projects diverted from the river in 1929: Palo Verde Irrigation District (Rep. 58-59), Imperial Irrigation District (Rep. 53-54), and Yuma Project, Reservation Division (Calif. Finding 3G:103(13), pp. III-46 and 47), all in California, and Colorado River Indian Reservation (Calif. Finding 14B:108, p. XIV-19), the North and South Gila Valley area (Calif. Finding 14E:105, pp. XIV-44 and 45), Yuma Project, Valley Division (Calif. Finding 14C:106, p. XIV-28), Yuma Auxiliary Project (Calif. Finding 14D:104, p. XIV-36), and the City of Yuma (Calif. Findings 14A:101-02, pp. XIV-3 and 4), all in Arizona. No appropriator senior to them, but with a right unperfected in 1929, has perfected a right since then. The projects now using water are identified at Rep. 127-28.

except as modified by the Colorado River compact or other interstate agreement." (Rep. app. 395.) This section, which was the basis of the Court's holding in *Arizona v. California*, 283 U.S. 423 (1931), is discussed *supra* pp. 140-45. The second is section 14 of the Project Act which incorporates section 8 of the Reclamation Act (*supra* pp. 147-50). The third is the language which Congress prescribed for the California Limitation Act. The quantities specified within California's limitation include "all water necessary for the supply of any rights which may now exist." (Rep. app. 398.) This describes recognition, not the destruction, of existing rights.

But even if the Master's construction of the "present perfected rights" provision in section 6 were correct, his conclusion that all other priorities are divested does not follow. The *upper basin* spokesmen put this in section 6.⁹ They disclaimed all intent to affect rights of Arizona and California *inter sese*. (*Supra* pp. 177-81.) Even if "present perfected rights" by the mandate of section 6 are senior to all other rights in the "mainstream," described by the Master as "rights that might be recognized . . . under state law but that do not qualify as perfected rights" (Rep. 161), it does not follow that those other rights, *inter sese*, are not governed by priority principles. At the very least, sections 14 and 18 of the Project Act preserve those priorities.

In combination, the Master's narrow definition of "present perfected rights" and his destruction of all interstate priorities other than those of "present perfected rights" would be as detrimental to Arizona, in many

⁹Hearings on H.R. 6251 and H.R. 9826 Before House Committee on Irrigation and Reclamation, 69th Cong., 1st Sess. 113, 116, 166-67 (1926).

respects, as to California. If the Master is correct, the city of Yuma was a trespasser on the river until it received a contract in 1960. Most users in the South Gila Valley are trespassers today. (Rep. 53, 213.) Unless the noncontract users in the South Gila Valley secure a contract or go out of existence earlier, Arizona would be in contempt of the Special Master's recommended decree from the moment of its entry by this Court.

Finally, it should be noted that article 7(l) of Arizona's 1944 contract expressly provides that "present perfected rights to the beneficial use of waters of the Colorado River system are unimpaired by this contract" (Rep. app. 403). This contract obviously speaks as of its effective date in 1944.

Arizona's 1944 contract further provides: "No charge shall be made for the storage or delivery of water at diversion points as herein provided necessary to supply present perfected rights in Arizona."¹⁰ Although uses by Arizona main stream projects (except for the Valley Division of the Yuma Project) have expanded over their uses as of June 25, 1929,¹ no Arizona project has

¹⁰Art. 9, Rep. app. 404. The balance of article 9 provides: "A charge of 50¢ per acre-foot shall be made for all water actually diverted directly from Lake Mead during the Boulder Dam cost repayment period, which said charge shall be paid by the users of such water, subject to reduction by the Secretary in the amount of the charge if it is concluded by him at any time during said cost-repayment period that such charge is too high. After expiration of the cost-repayment period, charges shall be on such basis as may hereafter be prescribed by Congress. Charges for the storage or delivery of water diverted at a point or points below Boulder Dam, for users, other than those specified above, shall be as agreed upon between the Secretary and such users at the time of execution of contracts therefor, and shall be paid by such users; provided such charges shall, in no event, exceed 25¢ per acre-foot."

¹See Ariz. Ex. 77-B (Tr. 3,992), table A-1, p. 43, areas A-7-C, A-8-C, A-9-C; Ariz. Ex. 190 (Tr. 3,686), table 1.

been required to make any payment for the use of main stream water.²

The Master's proposal to rewrite the law is based on inference and conjecture, and is not supported by a single word which anyone uttered about the Compact and its treatment of "present perfected rights," or section 6 of the Project Act and its treatment.

3. Approval of the Colorado River Compact by the Project Act

The Master points out that the Project Act approved the Colorado River Compact which he says "provides the background for the enactment of the Project Act" (Rep. 235), and the Compact, he asserts, treats the upper and lower basins on a parity with priority of appropriation not an operative factor. The Master relies upon Article III(c) which requires the two basins to bear equally the burden of any deficiency to meet the Mexican Treaty obligation if the waters surplus to the Article III(a) and (b) allocations are insufficient to supply Mexico. *Ibid.*

Article III(c) and (d) makes clear that the Compact does not put the two basins on a parity.³ Article III(c) requires Mexico to be supplied first from the systemwide surplus over the Article III(a) and (b) allocations. Thus, the rights to the use of III(c) waters

²Calif. Ex. 2718 is a U.S. Bureau of Reclamation tabulation of revenues received from storage of water (Tr. 17,220, 17,234-35). Only Nevada and Metropolitan Water District have paid for any water delivered.

³See Ariz. Exceptions, p. 2 n.1: "[W]e certainly disagree with the Special Master's statement that 'the Compact treats the Upper and Lower Basins on a parity one to the other in regard to the division of water . . .'" (Rep. 235)."

are junior to and not on a parity with those specified by Article III(a) and (b).

Article III(d), which provides that the upper division states may not deplete the Lee Ferry flow below 75 million acre-feet in any consecutive ten years, establishes a senior main stream right in favor of the lower basin, and is described by the Master as "the guarantee of the Compact" (Rep. 144). Article III(d) was apparently inserted in the Compact in recognition of the more rapid and substantial development below Lee Ferry. Thus, Article III(d) itself represents an application of the priority principle.

If the express incorporation of the Compact can be read out of section 4(a) and the limitation on California, a faulty inference from the Compact surely cannot be read back in to destroy the priority principle established under western water law for the past century. If the Compact provides any background for enactment of the Project Act, it is a background of a systemwide accounting which is included in Article III(c) as well as in Article III(a).

4. *The Tri-State Compact Set Forth in the Second Paragraph of Section 4(a) of the Project Act*

The Master writes (Rep. 235-36):

"As I have pointed out, the second paragraph of Section 4(a) gives advance approval to a compact among Arizona, California and Nevada containing an allocation of water which was substantially effectuated by the contractual allocation established by the Secretary. Under this proposed compact, each state's apportionment would be of equal quality, precisely like the inter-basin apportion-

ment in the Colorado River Compact. Surely Congress did not intend that such an interstate compact would give California superior priorities to water because of the earlier dates of her uses."

Mere inspection of the proposed tri-state compact discloses the fallacy. The compact would have allocated 2,800,000 acre-feet to Arizona, 300,000 to Nevada, but would have made no allocation whatever to California or to any other lower basin state. California's rights in all or part of the 4.4 million acre-feet of the III(a) apportionment remaining must be filled in from the first paragraph prescribing the terms of the limitation. Concerning the first paragraph, the Master accurately writes (Rep. 231):

"The first paragraph of Section 4(a) is a limitation on California, not a grant to her, and hence cannot be a source of her rights to water as against the other Lower Basin states."

The source of all of California's rights—described in the first paragraph of section 4(a) as including "all water necessary for the supply of any rights which may now exist"—was the only source of rights which any of the states had prior to the Project Act: appropriation and equitable apportionment. These are rights to which priority universally attaches. There can be no implication of intent to deprive California of priorities by a proposed compact which very conspicuously made no allocation to California "of equal quality" or otherwise.

The Master also errs when he ascribes to the Secretary an intent to effectuate this compact. The proration formula which the Special Master would infer from section 4(a) is expressly negated by clause (4) of the

proposed tri-state compact in the second paragraph of section 4(a). That clause provides in part (Rep. 383):

"[I]f, as provided in paragraph (c) of Article III of the Colorado River compact, it shall become necessary to supply water to the United States of Mexico from waters over and above the quantities which are surplus as defined by said compact, then the State of California shall and will mutually agree with the State of Arizona to supply, out of the main stream of the Colorado River, one-half of any deficiency which must be supplied to Mexico by the lower basin"

If the tri-state compact had become effective, clause (4) would have required shortages in the "Article III(a) waters" to be borne in the following proportions:

Arizona	50%
California	50%
Nevada	0%

According to the pro rata allocation of the "Article III(a) waters", which the Master finds is suggested in section 4(a), these shortages are met:

Arizona	37%	(28/75)
California	59%	(44/75)
Nevada	4%	(3/75)

The Master's conclusion fails because it puts everybody on the wrong side of the controversy:

Senator Hayden of Arizona, author⁴ and advocate⁵ of the proposed tri-state compact, included clause (4) which increased Arizona's share of the Mexican Treaty by 13 per cent (50 minus 37).

⁴Calif. Ex. 2014 (Tr. 11,173).

⁵E.g., 70 CONG. REC. 459-68 (1928).

Senator Johnson of California opposed the proposed tri-state compact⁶ which decreased California's share of the Mexican burden by 9 per cent (59 minus 50) and put it on Arizona.

Senator Pittman of Nevada was, at best, lukewarm toward the proposed tri-state compact⁷ which relieved his state of its entire share of any Mexican Treaty burden and put it on Arizona.

Under the rule in Bratton's case suggested by the Special Master—that the New Mexico Senator is conclusively presumed to be on New Mexico's side (Rep. 175)—this could not be so.

The conclusion compelled by clause (4) of the proposed tri-state compact is that priority of appropriation would control unless a proration scheme such as that suggested in clause (4) were adopted.

5. *The Principle of Sovereign Parity*

The Master asserts (Rep. 236):

"In short, Congress contemplated inequality in the quantities allocated to each of the states, but parity in their rank. Interstate priorities were rejected. The principle of sovereign parity was established."

"Sovereign parity" is an appealing phrase with many echoes in interstate litigation. It has never, however, been applied as the Special Master proposes. The relevant cases indicate what we take to be a basic truism: States, like men, are equal before the law; the Court

⁶E.g., *id.* at 466-67.

⁷E.g., *id.* at 469.

has made clear that this does not mean that either states or men are entitled to equal quantities of water. No one has previously suggested that it means equal priorities in unequal quantities of water.

Allocation of the water supply of an interstate stream is made on the basis of "equitable apportionment." A cardinal principle of equitable apportionment is "equality of right." "Equality of right" refers not to an equal division of the water but to the equal level or plane on which all the states stand, in point of power and right, under the constitutional system.⁸ The consequence of this principle is the application, between litigant states, of the principles and rules of law which the states apply in common to the determination of water rights within their borders. (See Part One *supra* pp. 64-65.) In the lower Colorado River basin, priority of appropriation is the exclusive basis of water rights in Arizona, Nevada, New Mexico, and Utah, and so far as material to this litigation, in California. (See Rep. 22.)

This principle, which results from the sovereign character of the parties in litigation, also results from the sovereign character of the parties to an agreement—or to a proposed agreement.

⁸What was there said [in *Kansas v. Colorado*, 206 U.S. 46] about 'equality of right' refers, as the opinion shows (p. 97), not to an equal division of the water, but to the equal level or plane on which all the states stand, in point of power and right, under our constitutional system." *Wyoming v. Colorado*, 259 U.S. 419, 465 (1922). In *Wyoming v. Colorado*, out of an available supply determined to be 288,000 acre-feet per annum after satisfaction of prior Colorado rights of 22,250 acre-feet, Wyoming received 272,500 acre-feet (94%) on the basis of her priorities. *Id.* at 490, 496.

6. *Administrative Construction*

The Special Master argues that administrative construction of the Project Act disproves the applicability of priority principles to the use of Lake Mead water, for two reasons: (1) The contracts incorporate the pro rata system of apportionment proposed, he asserts, in section 4(a) of the Project Act. (2) The Secretary has never compiled an interstate priority list nor gathered the data necessary to make such a list. (Rep. 236-37.)

The first reason is wrong. The second is irrelevant.

There are only two proration provisions in section 4(a): Not even the Master's contractual allocation scheme incorporates the express proration of the Mexican Treaty burden between Arizona and California as specified in clause (4) of the proposed tri-state compact. The Master does incorporate what he finds to be a proration of "excess or surplus" suggested by section 4(a). From this, we can infer only the intention to preserve and not to modify interstate priorities in "Article III(a) waters." (*Supra* pp. 212-13, 216-18.) There has never been a shortage, or a threatened shortage, of water to meet the consumptive uses from the main stream in the lower basin. (Rep. 161.) Therefore, it has never been necessary, to date, for the Secretary to establish any rule (priority or proration) to govern the distribution of water in case of shortage. Arizona's contract, article 10, disclaims any effect on interstate priorities—odd, if the "scheme" displaced them.

The Secretary has secured an intrastate priority schedule for California⁹ because of the California Limi-

⁹Ariz. Ex. 27 (Tr. 242), the Seven-Party Agreement, article I of which is incorporated in General Regulations of the Secretary, Calif. Ex. 1811 (Tr. 12,244), art 6.

tation Act which restricts the quantity of water available to satisfy the very substantial California rights. Thus an intrastate priority conflict arose almost immediately in California. On the other hand, there has been more than sufficient water to supply requirements of other basin states; and, therefore, a shortage within Arizona and Nevada has been unlikely and an intrastate priority schedule has not been made. Yet the Special Master agrees that the intrastate distribution of water in each of these states is governed by intrastate priorities (see Rep. 216-17).

Similarly, the Secretary has never compiled a list of "present perfected rights" and their relative priorities. Yet, the Special Master asserts that the statute expressly commands their satisfaction and the preservation of their priorities. (Rep. 306-12, 349, Decree art. II(B)(6).) The Master's recommended decree provides machinery for the determination of "present perfected rights" and their priorities. (Rep. 359, Decree art. VI.)

We have set forth (pp. 162-65 *supra*) sustained administrative materials which establish that priority principles as incorporated in equitable apportionment have not been nullified by the Project Act or by the contracts.

C. The Master's Proration Scheme Would Provide an Illogical and Impractical Dual System of Water Rights in the Lower Basin

The Master recommends that the use of water from the "mainstream" is to be governed by a proration formula. (Rep. 233-37.) Rights to the use of water

found flowing in any other part of the Colorado River system within the lower basin (including the main stream between Lee Ferry and Lake Mead) are still governed by the doctrine of equitable apportionment. (Rep. 320-21, 323, 325.) Strangely, however, the equitable apportionment doctrine is also found to apply between competing rights on the "mainstream" and rights on the "tributaries." (Rep. 316-17.) The Special Master invalidates the deduction clauses in the Arizona and the Nevada water delivery contracts which are designed to protect the Lake Mead supply against undue depletions of the Lake Mead supply by those states. Instead, the Master suggests (Rep. 247):

"[V]oiding these provisions does not . . . leave California helpless to protect her interests. . . . California will be able to protect herself against undue depletions on the tributaries and the mainstream above Lake Mead by compact, or, if the necessity arises, by suit."

Suppose that Arizona constructs a Central Arizona Project, diverting water from Bridge or Marble canyons on the newly defined "tributary," the main stream above Lake Mead. (See Rep. 227-28.) California is invited to sue. The suit would be based on equitable apportionment, and the decree would recognize California's priorities. A decree in that suit, if it prevailed, would enjoin the diversion, and water would be released into Lake Mead.

"Once this tributary water commingles with the mainstream water it is governed by the Project Act and the Secretary's water delivery contracts."

and may be consumed only according to the interstate apportionment created by them." (Rep. 317.)

First: The effect thereof is to allocate to California only 44/75 of the water supply which our water right makes available for use. The Master has created an anomalous creature hitherto unknown to water law: a water right which can be fully vindicated against junior users but which is shorn of 31/75 of any water made available thereby.

Second: The Secretary must allocate 28/75 of that water to Arizona users below Hoover Dam. If the rights of Arizona users below Hoover Dam were junior to the rights of the enjoined Arizona users above Lake Mead, this allocation would be a violation of state law which the Master finds prohibited by section 18 of the Project Act (Rep. 240-41) as enforced by a provision in the Master's recommended decree (Rep. 350, Decree art. II(C)(1)). Yet it is partially on the basis of a supposed similar violation of section 18 of the Project Act that the Master voids the deduction clauses in the Arizona and Nevada contracts (Rep. 240-41). Thus, the Master has invalidated, without good reason (see *supra* pp. 201-03) the contract provision designed to protect the Lake Mead supply and has substituted therefor an unworkable scheme of overlapping priority and proration.

Third: The 3/75 of such water would be available to Nevada users from Lake Mead and below even though some of these uses would be junior to the enjoined use. This would be contrary to the very priority under equitable apportionment principles which required the release of these waters.

Such a dual system of water rights is completely unknown in the law of the West. The Master's dual system of water rights *requires* that priority, both interstate and intrastate, be violated.

Neither the Project Act nor any contractual allocation scheme established thereunder can reasonably be construed to impose this illogical and unworkable dual system of water rights on any part of the Colorado River system in the lower basin.

PART FIVE

THE DEPENDABLE WATER SUPPLY CAN AND MUST BE DETERMINED

The Water Supply Issue and Its Significance

The Report generates, but fails to articulate, this paradox:

1. Absent the Colorado River Compact, there could be no justiciable controversy among Arizona, California, and Nevada; indeed, not even a harsh word. The historic flow of the Colorado River at Lee Ferry, the dividing point between the upper and lower basins, as reported by the Master,¹ is in excess of that required to supply all of the demands of Arizona and Nevada for all of the projects now in existence plus all of the demands for new projects which those states have identified, plus a full supply for California's Metropolitan Water District and all California priorities senior to it,² plus the Mexican Water Treaty

¹The Master reports historic Lee Ferry flows in three tables, at Rep. 109, 117, and 146. The table at Rep. 109, giving aggregates by decades, 1898-1958, shows that the flow for the most recent 10-year period, ending in 1958, averaged 11.66 million acre-feet per year; 20 years, 11.9 million; 30 years, 11.85 million; 40 years, 12.73 million; 50 years, 13.50 million; and 60 years, 13.66 million.

²If California were to receive enough water to give the Metropolitan Water District a full supply, California would receive 5.062 million acre-feet of consumptive use, disregarding minor quantities for federal reservations in California sustained by the Master (*supra* p. 15). Under the Master's formula, in such event, Arizona would receive enough to sustain 3.462 million, and Nevada 300,000, a total of 8.824 million (as between Arizona and Nevada, the apportionment would vary somewhat, depending upon whether the Secretary contracts with Nevada for 4% of surplus, but the total for the two states in any event would be 3.762 million if California received 5.062 million, and the sum total of 8.824 million would be unchanged). This requires a flow at Lee Ferry of about 2,500,000 acre-feet more than the uses sustained (see plate 7 *infra* and accompanying table) or more than 11.3 million acre-feet, to supply Mexican Treaty deliveries and losses.

requirements, and all transit losses projected for the future.³ If there is now a justiciable controversy in the lower basin, it is only because some present recognition must be given to the Colorado River Compact's apportionment to the upper basin, not yet fully utilized. But the Master says that the Compact apportionment of 7.5 million acre-feet of consumptive use is only a "ceiling on the quantity of water which may be appropriated" (Rep. 140), which may or may not ever be reached⁴ (Rep. 111-13), and is irrelevant (Rep. 138). If so, the conclusion ought to follow that the case is not now justiciable. The Master holds otherwise (Rep. 129-35).⁵

2. On the other hand, a comparison of the water supply at Lee Ferry for the last 30, 40, 50, or even 60 years (Rep. 109) with the rate of upper basin depletions which will be occasioned by projects now under construction, plus projects which Congress has authorized or instructed the Secretary of the Interior to prepare for submission to Congress,⁶ shows that the residue which will be available after these depletions will not support on a permanent basis the consumptive use of more than 6 million acre-feet per annum of main stream water in Arizona, California, and Nevada after satisfying the first lien of the Mexican Water Treaty

³Treaty delivery plus net transit losses below Lee Ferry projected by Arizona and California, based on existing and authorized storage capacity, are 2.350 and 2.525 million acre-feet, respectively. See plates 7 and 8 and accompanying table *infra*.

⁴Rep. 115: "Existing California uses are in no danger of curtailment unless and until many vast new projects, some of which are not even contemplated at this time, are approved by Congress and constructed."

⁵Rep. 132-33: "[D]espite a present unsatisfied demand for water in the Lower Basin, it is impossible to develop further uses of the water because of the cloud on its legal availability."

⁶Pp. 252-53 *infra*.

and nature's toll of unavoidable losses.⁷ Of this, California's share under the Master's formula would be 3,520,000 acre-feet⁸ compared with constructed capacity of 5,362,000 acre-feet, and actual uses at the close of trial of 4,586,392 acre-feet,¹ now substantially greater.² The survival of one or more of California's existing projects, if the Special Master's formula is approved, will depend either upon nature's generosity in furnishing a water supply in the next half century greater than that of the last half century, or on Congress' reversal of its stated policy³ of putting to use in the upper basin the water which the Compact apportions to that basin in perpetuity.

The conclusion ought to follow that the Report's formula for division of the supply among Arizona, California, and Nevada does violence to the meaning of the documents which together constitute the law of the river. The Master declines to so test his formula, saying that (1) the dependable water supply cannot be determined (Rep. 102-25), and (2) he will not receive evidence on the anticipated growth rate of upper basin depletions (Rep. 112 n.41). We respond to these assertions *infra* pp. 251-61. o.

Manifestly, the Compact is the factor which tips the scales between these opposite conclusions. But the Master holds the Compact to be irrelevant (Rep. 138).

⁷The calculation is shown on the explanatory note and table preceding plate 7 and illustrated on plates 7 and 8.

⁸Calculated by the Master at Rep. 311.

¹Rep. 128, corrected to reflect n.73.

²See appendix, pp. A35-36.

³Pp. 252-53 *infra*.

I. THE DEPENDABLE WATER SUPPLY MUST BE DETERMINED TO ESTABLISH THE EXISTENCE OF A JUSTICIABLE CONTROVERSY*

This Court has stated the classic test of a justiciable controversy over water rights:

“[W]here there is not enough water in the river to satisfy the claims asserted against it, the situation is not basically different from that where two or more persons claim the right to the same parcel of land. The present claimants being States we think the clash of interests to be of that character and dignity which makes the controversy a justiciable one under our original jurisdiction.”
Nebraska v. Wyoming, 325 U.S. 589, 610 (1945).

The controversy which the parties brought to this Court, and the controversy which the Court referred to the Special Master, was a controversy created by conflicting claims to the *dependable* water supply. Its precipitating cause, as the Master accurately reports (Rep. 130-31), was the need to determine whether there will be a “dependable water supply” (Rep. 130) for the proposed Central Arizona Project.

This controversy he declines to resolve.

*We shall use “justiciable” and “justiciability” to refer both to the constitutional requirement of a case or controversy necessary to invoke the judicial power, and to the requirement in the original jurisdiction that the case must be of serious magnitude, proved by clear and convincing evidence. Cases are cited at Rep. 130, 319-20.

II. THE DEPENDABLE WATER SUPPLY MUST BE DETERMINED TO COMPARE THE RESULT PROPOSED BY THE DECREE WITH THE RESULT INTENDED BY CONGRESS IN 1928

The Master writes (Rep. 101):

“Obviously the relevant factor in determining Congressional intention is the supply of mainstream water which Congress thought would be available at the time it enacted the Project Act, not the supply which will in fact be available after 1960.”

A water supply study—translating flow to consumptive use—is essential to discover the legislative intent and purpose in 1928. One compelling example will illustrate why this is so.

Here is what Senator Hayden (“one of those most interested in the Project Act,” Rep. 155) said on December 12, 1928 (70 CONG. REC. 464):

“The Senator [Shortridge of California] thoroughly understands, I hope, that under the set-up⁴ to which the senior Senator from California [Johnson] has so often referred, there will be available at Boulder Dam on the average about nine and one-half million acre-feet of water. There are varying estimates, but they all arrive at about that conclusion.

“The bill itself provides that a million acre-feet

⁴(Footnote ours.) The “set-up” seems to be the fourth Swing-Johnson bill as it was then pending before the Senate, Calif. Ex. 2010 (Tr. 11,173).

may be used in the vicinity of Los Angeles, and some three and one-half million acre-feet through the all-American canal to irrigate the Imperial Valley. Then there is another half million acre-feet which may be used in the vicinity of Yuma and the Paloverde [*sic*] Valley, leaving about 4,000,000 acre-feet of water unused, and which can not go anywhere else except to Mexico, unless the State of Arizona undertakes this very plan of development which the Senator from California seems to indicate is impossible of accomplishment."

The 9,500,000 acre-feet of supply at the site of Hoover Dam, of which Senator Hayden spoke, is very close to the determinations of flow at Hoover Dam by expert witnesses whose testimony the Special Master rejects. Our figure was 9,650,000.¹

Senator Hayden's arithmetic would allow 5 million acre-feet for California, 4 million for Arizona, Nevada, and Mexico, and 500,000 acre-feet for losses. It is reasonably clear that he was talking about gross diversions, not diversions less returns to the river.² But his supply figure is significant, and he said that it

¹Plate 7 and accompanying table:

Inflow to lower basin at Lee Ferry	8,700,000 acre-feet
Net gain, Lee Ferry to Hoover Dam	950,000 acre-feet
Available at Hoover Dam	9,650,000 acre-feet

²Senator Hayden treated the 2,800,000 acre-feet which the proposed tri-state compact would have specified for Arizona as gross diversions, equivalent to 1,852,000 acre-feet of consumptive use (diversions less 948,000 acre-feet of return flow usable in

would provide water for the All-American Canal, the Palo Verde Irrigation District, the Yuma area (presumably in California), and a million acre-feet for "the vicinity of Los Angeles." This congressional purpose the Master would frustrate.

This is a compelling reason to reject any proposal to rewrite the statute to deprive "the vicinity of Los Angeles" of a water supply 30 years after Metropolitan has built works to use the waters which Senator Hayden said (overstating the form but not the substance) were provided for Metropolitan in the bill.

This also, we think, refutes the Master's categorical statement that "the estimates of supply in 1928 were uniformly and substantially larger than even the most

Mexico). "In other words, if Arizona were given the privilege of diverting 2,800,000 acre-feet of water from the Colorado River at Parker, and applying it to the lands in the lower Gila Valley, the return flow would be sufficient to take care of all the legitimate demands of Mexico." 70 CONG. REC. 463 (1928). "I have specified in the amendment which I have offered that the State of Arizona lays no claim to that return flow. *We do not ask to have any credit for it* after it arrives in the main stream of the Colorado River. It will be surplus and unappropriated waters which Arizona can not use, and that water, and that alone, will be sufficient to supply any demand for water to meet the existing uses in Mexico." *Id.* at 464. (Emphasis added.)

If rewriting a statute based on a confused legislative history were in order, the place to start, in § 4(a) of the Project Act, is its definition of consumptive use. It is not defined at all in the second paragraph, on which the Master relies for his "contractual allocation scheme."

A "contractual allocation scheme" based on 4.4, 2.8, and .3 million acre-feet for the three states, plus one half of excess or surplus for Arizona and California, all in terms of diversions and not consumptive use, would produce a result far more favorable to California than that which the Master has devised. Of California projects, only Palo Verde and the Reservation Division of the Yuma Project have significant return flow. All Arizona main stream projects have substantial return flow, as Senator Hayden indicated.

optimistic estimates made today.”³ (Rep. 101-02.) The failure to present the appropriate data conceals what is, if the Master is correct, one of this century’s most astonishing paradoxes.

For six years California fought for and Arizona fought against the Boulder Canyon Project Act. Every Arizona spokesman in Congress opposed it. The act passed, and Arizona came to this Court alleging its unfairness to her (*Arizona v. California*, 283 U.S. 423, 449-50 (1931)). Yet that act generated an “allocation scheme” under which most of the water which the Boulder Canyon Project makes available for use, over and above the natural flow rights satisfied before Hoover Dam was built, goes to Arizona. (*Infra* plate 9.)

If the Master is right, every California man and every Arizona man in Congress was on the wrong side in

³The most authoritative report relating to water supply before Congress when the Project Act was passed is that of the board of engineers appointed by the Secretary of the Interior with approval of the President, under authority of a joint resolution of May 29, 1928 (45 Stat. 1011), transmitted to Congress by the Secretary on December 3, 1928. That report, after concluding that prior water supply estimates were too optimistic, stated this conclusion: “It is estimated that the present flow [at Black Canyon, site of Hoover Dam] is depleted by water taken for irrigation in the upper basin by approximately 2,750,000 acre-feet, which amount, if added to the above estimated average flow, would increase it to about 15,000,000 acre-feet.” An undepleted or virgin flow of 15,000,000 acre-feet at Black Canyon is the equivalent of about 14,000,000 acre-feet at Lee Ferry because the net gain between the two points is almost 1,000,000 acre-feet per annum (*supra* p. 237 note 1). While other estimates, including that reported by Senator Hayden, were higher (pp. 236-37 *supra*), none is as authoritative an answer to the question: What information did Congress have about water supply when it enacted the Boulder Canyon Project Act? The report is Calif. Ex. 202 (Tr. 7,714), found in Sp. M. Ex. 4 for *idem*. (Tr. 255), WILBUR & ELY, HOOVER DAM DOCUMENTS (H.R. Doc. No. 717, 80th Cong., 2d Sess. A187 (1948)). Quotation is from p. A200.

1928, and the states remained on the wrong side through three suits in this Court.

The paradox is apparent, however, only when the subject matter of the suit—dependable water supply—is recognized as determinable.

III. THE PREMISES UPON WHICH THE MASTER DECIDES THAT DEPENDABLE WATER SUPPLY IS UNDETERMINABLE ARE IN ERROR, BUT IF CORRECT WOULD MAKE THE CONTROVERSY NONJUSTICIABLE

The controversy is not justiciable if the premises of the Special Master are correct. Those premises, all contrary to the premises of the controversy pleaded and tried, may be quickly identified:

(1) The Colorado River Compact is irrelevant to the controversy⁴ (Rep. 138). It is merely a "limitation on appropriative rights" in each basin rather than an apportionment in perpetuity⁵ (Rep. 140, 149), and there is nothing to show that upper basin depletion will exceed 4.8 million acre-feet (Rep. 111-12).

(2) Any danger of impairment of existing California uses, under the formula allocation devised by

⁴Contrast Ariz. Complaint par. XXII, pp. 25-26, and Prayer, pp. 30-31, identifying Compact issues at the heart of the controversy. *Accord*, U.S. Petition of Intervention, par. XXXII, p. 28.

⁵Contrast Ariz. Exception 1, pp. 3-4, disagreeing with this conclusion of the Master.

U.S. Brief in Support of Motion To Intervene, filed Dec. 31, 1952, pp. 28-29:

"Severally, the States of the Upper Basin of the Colorado River have apportioned among themselves the 7,500,000 acre-feet of water annually allotted to that Basin by the Colorado River Compact. Development of that Basin is going forward premised upon that apportionment."

the Master, is nonexistent "unless and until many vast new projects, some of which are not even contemplated at this time, are approved by Congress and constructed."⁶ (Rep. 115.)

(3) The "margin of error" within which it is possible to make a useful prediction of future main stream water supply is greater than 1,800,000 acre-feet per year (Rep. 104), a margin greater than the 1,700,000 acre-feet of water alleged by Arizona to be unused and to which she sought to quiet title.⁷

The controversy is justiciable only if the Master's premises are wrong.

IV. THE MASTER OVERSTATES THE DIFFICULTY OF DETERMINING WATER SUPPLY

A. Necessity and Feasibility

The determinations of the dependable supply in this case were closely corroborated by a distinguished group of experts on both sides.⁸ Determinations were in close

⁶Contrast: "The contending parties assert conflicting claims to the right to use certain quantities of Colorado River System water. These claims are mutually exclusive. As to each quantity of water involved a recognition of the Arizona claim requires a denial of the California claim and vice versa." Ariz. Statement in Support of Motion To File Bill of Complaint, bound with Complaint, p. 3.

⁷"Arizona is not now presently using all of the aforesaid 3,800,000 acre-feet of water to which it is entitled annually. In excess of 1,700,000 acre-feet out of the said 3,800,000 acre-feet is not being presently used and consumed in Arizona" Ariz. Complaint, par. XVII(b), p. 21.

⁸The hydrologists who testified on this subject were John R. Riter, Chief Development Engineer, U.S. Bureau of Reclamation (former Chief Hydrologist) (Tr. 21,261), Raymond A. Hill, consulting engineer⁹ (Tr. 21,726-31), Thomas M. Stetson, con-

agreement. The range of projections is 5.85 to 6.3 million acre-feet⁹ (ignoring, as we must, any assumption as to contributions by the upper division under Article III(c) of the Compact in satisfaction of the Mexican burden (Rep. 145)). Experts used standard techniques understood by all hydrologists and used in planning all great projects. They are supported in their projection of the releases from Hoover Dam by a study published by the Bureau of Reclamation in 1960, after the close of the trial.¹⁰ If the Reclamation Bureau's projection is correct, the Master's formula would reduce the Metropolitan Water District's supply to 538,000 acre-feet per annum by 1975.¹¹

The Master discards all determinations. He does not make one of his own. It is entirely possible to make this essential determination. The Court has done so itself from far less satisfactory hydrological records.¹² It can do so here. As an alternative, it can refer the problem to the Master with instructions to take the testimony of experts of his or the Court's own choosing in a supplemental reference. See the motion we made to the Master for this purpose. (Appendix, p. A39.)

sulting engineer (Tr. 10,471-73), for California; and John R. Erickson, consulting engineer (Tr. 18,002-05), for Arizona. Luna B. Leopold, Chief Hydraulic Engineer, U.S. Geological Survey (Tr. 21,421) testified on the application of laws of probability to stream flows. There is no more distinguished group in their field.

⁹*Infra* p. 245.

¹⁰BUREAU OF RECLAMATION, REGION 4, U.S. DEPT OF THE INTERIOR, FINANCIAL AND POWER RATE ANALYSIS, COLORADO RIVER STORAGE PROJECT AND PARTICIPATING PROJECTS (September 1960). Discussed *infra* pp. 259-61.

¹¹*Infra* p. 260 and table 6 *infra*.

¹²*Nebraska v. Wyoming*, 325 U.S. 589 (1945); *Wyoming v. Colorado*, 259 U.S. 419 (1922). See plates 4, 5, and 6 *infra*.

B. What Is Meant by "Dependable Supply" or "Safe Annual Yield"

The dependable supply or safe annual yield is *not* the minimum flow, *not* the "average" flow. It is the "whole universe," the entire body of water found to have existed during a period of time long enough to include drouths as well as floods, regulated to the maximum extent made possible by the use of storage reservoirs to commute the highly variable annual flows into the maximum annual evenly regulated discharge, less unavoidable losses.

C. The Magnitude of the Dependable Supply

1. Controlling Factors

The calculation of the safe annual yield or dependable supply available from the main stream for division among Arizona, California, and Nevada involves three questions: (1) How much will be received at Lee Ferry? (2) How much will this supply be augmented by inflow below Lee Ferry? (3) How much of it is unavailable for consumptive use in the United States because of the Mexican Treaty requirements and unavoidable losses? The residue is dependable supply.

There is no real hydrologic issue. The experts agree on all hydrologic factors within a few percentage points. See plates 7 and 8 and accompanying table comparing the expert witnesses' calculations in determining dependable supply.

2. Techniques of Determining Water Supply

The techniques employed by the experts testifying for Arizona and California were standard ones, used con-

tinuously by hydrologists in the calculation of the dependable supply which is essential before any large project is constructed.¹

Essentially, the method is this: Assuming that all of the reservoirs now in existence and authorized² had been in existence at the beginning of any selected period of time, it is mathematically possible to calculate how much of the variable flow that occurred during this period could be converted by this storage into an *equal annual release*, and what the uncontrollable excess or "spills" of floods would be. The process is not, as the Master

¹The technique is spelled out in detail in Calif. Findings, part V, which cross-reference the exhibits and testimony. Annexed to this brief are a schematic drawing, plate 7, which illustrates it, and a bar chart, plate 8, which compares the figures arrived at by the experts for each stage of the calculation. See the explanatory note preceding plate 7.

²The water supply studies in evidence deducted from the Lee Ferry inflow so much of the upper basin's apportionment as the upper basin can physically use by means of existing and authorized regulatory storage, plus (in some of the studies) assumed additional upper basin storage, while at the same time complying with Article III(d) of the Compact.

³Additional storage constructed anywhere in the Colorado River basin will add little, if any, to the usable water supply. There will be no significant gain in regulation by further increasing capacity because increased capacity will be largely offset by a corresponding increase in evaporation. W. B. Langbein, "Water Yield and Reservoir Storage in the United States," U.S. Geological Survey Open File Report, June 1958, pp. 8-9. This is Calif. Ex. 3007 (Tr. 21,469), adopted as the testimony of Dr. Luna B. Leopold, Chief Hydraulic Engineer, U.S.G.S. (Tr. 21,468-69.)

The largest reservoir under construction is Glen Canyon, located on the main stream about 16 miles upstream from Lee Ferry. All storage capacity existing or authorized for construction in the upper basin at the time of trial would provide the equivalent of 25,000,000 acre-feet of storage capacity effective at Lee Ferry. Tr. 11,721-22 (Stetson).

seems to think, one of averaging (Rep. 107-08). It involves a year-by-year analysis of the optimum draw-down and replenishment of each reservoir on the river, in conjunction with one another.^{2a} There are several mathematical methods, but all produce about the same results in dealing with the same basic statistics, all gathered and published by federal agencies. Deductions must be made for reservoir losses, transit losses, and water to supply the Mexican Treaty deliveries (including excess arrivals in Mexico because of regulatory problems). The residue is the dependable supply.

3. *Conclusions of the Experts*

The experts were in close agreement as to the permanently dependable supply which will be available to the lower basin. The best that the lower basin could expect, even if the water supply were as abundant as it was during the most favorable period that ended with the date of trial, and even if all reservoirs in both basins were operated with optimum efficiency, would be in the range of 5.85³ to 6.3 million acre-feet per year.⁴

^{2a}The Secretary of the Interior must coordinate all reservoirs in the Colorado River basin controlling the storage and release of water under the command of the Colorado River Storage Project Act § 7, 70 Stat. 109 (1956), 43 U.S.C. § 620f (1958).

³Calif. Ex. 2216-A (Tr. 11,825); Tr. 21,836 (Stetson). The Master refers to the "future Lower Basin mainstream supply" as being 6.175 million (Rep. 110). He has overlooked the witness' reduction to 5.85 by a 5% safety factor. Tr. 11,818-19, 12,141-42 (Stetson).

⁴See table accompanying plates 7 and 8. The only study which indicated a dependable supply greater than 6.3 million acre-feet was that of Arizona witness Erickson based on legal assumptions supplied by Arizona counsel, never clearly explained, but the result of which would have required the upper division states to supply an average of 1,280,000 acre-feet per annum at Lee

D. The Master's Rejection of the Experts' Determinations of Dependable Supply

The Master rejects these determinations on two grounds: (1) "Lower Basin supply is affected by Upper Basin uses . . . no one can say with certainty what increase may occur in Upper Basin uses or at what time" (Rep. 110), and (2) "the science of hydrology is not capable of sustaining a prediction accurate enough to shed light on this question" (Rep. 103).

E. The Effect To Be Given the Colorado River Compact

The controlling reason for the Master's conclusion that the lower basin's dependable supply cannot be determined is his revolutionary interpretation of Article III(a) of the Compact. These are the critical words:

"There is hereby apportioned . . . in perpetuity . . . the exclusive beneficial consumptive use of 7,500,000 acre-feet of water per annum"

What effect shall be given to this apportionment in answering the ultimate question which precipitated this suit: Is there a dependable supply for the proposed Central Arizona Project?

Ferry in controlled releases expressly for purposes of the Mexican Treaty (in addition to the Compact Article III(d) requirement). By this device and increasing existing and authorized upper basin effective storage to the equivalent of 35 million acre-feet at Lee Ferry the lower basin supply was inflated to 7.4 million acre-feet, at the expense of the upper basin. See Tr. 18,090-90A, 18,097 (Erickson); Ariz. Ex. 366 (Tr. 18,097). The instructions of Arizona counsel are incorporated in footnotes in Ariz. Ex. 353 (Tr. 18,097). Arizona counsel later disclaimed these assumptions. (Tr. 21,839-42.) The Master rejects any assumption in the studies of "the extent of the delivery obligation imposed on the states of the Upper Division under Article III(c) of the Colorado River Compact." (Rep. 112.)

Three approaches to this problem appear in the record:

(1) Treat the upper basin's apportionment of 7.5 million acre-feet of consumptive use as a present withdrawal of that quantity from the lower basin's dependable supply, giving it somewhat the effect that the Master gives to a "reserved water right" for federal reservations (Rep. 310). This is the approach used in the Secretary's report to Congress on the Central Arizona Project,¹ and in the United States Petition of Intervention in this case,² in demonstrating the existence of a justiciable controversy in the lower basin. If applied literally, the residual Lee Ferry flow would be depleted down to approximately the "guarantee of the Compact" (Rep. 144), 75,000,000 acre-feet each 10 years, stated in Article III(d). (See p. 249 *infra*.)

(2) Treat the upper basin apportionment as if now in use, but only up to the quantity which could be made available for upper basin use (i) by the storage reservoirs now in existence or which Congress has authorized for construction, while (ii) honoring the obligation imposed by Article III(d). This was the method which provided the figures 6.5 and 6.8 million acre-feet of upper basin depletions referred to in the Report at page 111.

(3) Treat the upper basin's apportionment as related to a ceiling on appropriations, as the Master does (Rep.

¹Ariz. Exs. 70 (Tr. 308) and 71 (Tr. 310, 3,513, 3,520-21), pp. 150-51; cited at Rep. 30-31, 130.

²*Supra* p. 240 note 5.

111, 140-42),³ that is, the upper basin apportionment makes no reservation at all against the lower basin, but the quantity available to the upper basin is the residue left after the lower basin reaches the ceiling on appropriations imposed upon it by Article III(a) and (b), subject, apparently, to two provisos: (i) the III(d) obligation must be honored (Rep. 144), (ii) the III(a) "ceiling" on each basin is otherwise on a parity, so that if there is not water enough to sustain appropriations up to that ceiling in each basin, the two basins must prorate (Rep. 236).

The Master concedes that the Compact has something to do with lower basin water supply (Rep. 138) but rejects the relevance of both Compact and water supply. What he says about the Compact is misleading:

"With the storage provided by Lake Mead, and barring a drought unprecedented in the recorded history of the River, the Lower Basin has, under the guarantee of the Compact, available for use at Hoover Dam a minimum of 7,500,000 acre-feet of

³This requires a word of caution. The Report treats Article III(a) as "a ceiling on the quantity of water which may be appropriated" (Rep. 140), as establishing "limits" (Rep. 142), but this cannot mean that the *upper* basin apportionment is equated with a ceiling on *upper* basin appropriations. If that is meant, the apportionment to a basin is not an asset to it, but a liability.

The Master ignores the Colorado River Storage Project Act which treats the Colorado River Compact as an apportionment in perpetuity to the upper basin. See pp. 252-53 *infra*.

water per year, less transit losses between Lee Ferry and the dam, evaporation loss from Lake Mead, and its share of the Mexican treaty obligation." (Rep. 144-45.)

This statement fails to disclose how "7,500,000 acre-feet of water per year" translates to the denominator of the decree, "diversions less returns to the stream." The following tabulation does so on the basis of the only figures in the Report:

"Guarantee under the Compact	7,500,000"
Less:	
Evaporation loss from Lake Mead (average from Rep. 124)	751,000
Evaporation loss from Lake Mohave (average from Rep. 125)	153,800
Evaporation loss from Lake Havasu (<i>ibid.</i>)	140,200
Channel loss between Hoover Dam and international boundary (average 1946-1951, Rep. 125)	971,700
Lower basin share of the Mexican Treaty obligation (unstated, but at least)	750,000
	<hr/>
	2,766,700
Available for decreed allocation	<hr/> 4,733,300

The losses are larger than those associated with 7,500,000 acre-feet of flow; tributary inflow and regulatory loss to Mexico are not included; channel and reservoir losses are to some extent duplicating. Nevertheless, the figures make obvious that when the Master associates the "margin of error" in determining water supply with the margin between 7,667,700 and 5,850,000 acre-feet of consumptive use for three states from the "mainstream" (Rep. 104) he does so without regard to what he calls "the guarantee of the Compact." (Rep. 144.)

F. Consequences of the Master's Concept of Article III(a) of the Compact as a "Ceiling" on Appropriations Instead of an Apportionment in Perpetuity

1. *The Legal Problem*

The Master's concept of Article III(a) is the reverse of the pleaded positions of all of the parties which were before the Court when it denied California's motion to join the four upper division states as necessary parties. In the absence of those states, this proposed rewriting of the plain language of the Compact is not a dependable foundation for the determination of this lower basin controversy. Those states would argue that the purpose of the Compact, as stated by the Master (Rep. 22-27, 138-41), would be served only by an apportionment in perpetuity to the upper basin; it certainly could not be served at all by a limitation on appropriations in the *upper* basin; and it could not be adequately served by imposing a limitation on *lower* basin appropriations (including the tributaries (Rep. 140-42)) which left no assurances that the residue not so appropriated would suffice for future upper basin use.

If, however, the Master is right, there is no justiciable controversy. The upper basin has not approached its ceiling (Rep. 111); and the lower basin is only now approaching its ceiling. There is now unused upper basin water, not yet appropriated in the upper basin and which perhaps may never be appropriated there, available for the Central Arizona Project to appropriate without impinging on *lower* basin claims of any party.⁴

⁴The vice of the Master's decision even on this assumption is that it places the risk of error in calculating availability of unused upper basin water on existing facilities and existing economies in California. If there is conviction behind any assumption

2. *The Factual Problem if the Compact Is Treated Merely as a "Ceiling" on Appropriations*

Is the Master right in believing that upper basin depletions will not increase above 4.8 million acre-feet per annum (Rep. 112), that there is nothing to indicate that they will expand to "anywhere near 6,500,000 acre-feet"? (Rep. 111.) The issue was not tried.

In the draft report circulated to the parties on May 5, 1960, the Master stated: "I have become convinced that it is impossible to make an estimate of future supply in the Lower Basin within useful limits of accuracy" (p. 103). The difficulties then appeared to be with the engineering evidence. On June 10, 1960, we moved that the Master appoint an expert or experts to assist in making a determination. (See Calif. comments on draft report, pp. 62-63.) He denied our motion. During oral argument in New York City in August 1960, the Master made clear his view which appears in the Report—that the major uncertainty stems from a conviction that "there is nothing to indicate that the Upper Basin depletions, which have never exceeded 2,200,000 acre-feet per annum measured at Lee Ferry, will expand to anywhere near 6,500,000 acre-feet."⁵

which makes unused water available, fairness requires that the risk of error inherent in the assumption should be assumed by those who can evaluate the risk of prospective shortage in planning new projects.

⁵The figure 6,500,000 acre-feet is from our evidence. It is our estimate of the quantity which the upper basin can physically utilize with presently constructed and authorized regulatory storage reservoirs consistently with the upper division delivery obligation under Article III(d) of the Colorado River Compact to supply 75,000,000 acre-feet of flow each 10 years. The Master erroneously asserts that "the witnesses assumed this amount of depletion on instruction of counsel" (Rep. 111). See Tr. 11,729-30, 12,138.

The Master denies (Rep. 112) our offer to prove that these depletions will rise to 6.19 million acre-feet by 1990 (Calif. motion to reopen trial to take evidence re upper basin depletion of Colorado River at Lee Ferry, filed August 31, 1960, at appendix, p. A59), wiping out Metropolitan's supply under his formula.

In fact, project plans are in being for enough projects in the upper basin to use far more than its maximum apportionment.

In 1956, Congress enacted the Colorado River Storage Project Act for the purpose declared in section 1 of "making it possible for the states of the Upper Basin to utilize, consistently with the provisions of the Colorado River Compact, the apportionments made to and among them in the Colorado River Compact and the Upper Colorado River Basin Compact, respectively" 70 Stat. 105 (1956), 43 U.S.C. § 620 (1958). Three of the Storage Project's major reservoirs are nearing completion.¹

Section 2 of that act (70 Stat. 106 (1956), 43 U.S.C. § 620a) provides that the Secretary shall give a number of named participating reclamation projects "priority to completion," such projects being the first beneficiaries of the water and power made available by the reservoirs authorized by section 1.

⁰H.R. Doc. No. 419, 80th Cong., 1st Sess. 3 (July 1947) (second pagination series). Portions of H.R. Doc. No. 419 are Ariz. Ex. 64 (Tr. 290).

¹Cf. Rep. 112. Glen Canyon Dam, Flaming Gorge Dam, and Navajo Dam are scheduled for closure by 1962 and will then commence withholding of water which otherwise would flow to the lower basin.

Section 3 of the act² expressly declares that it is not the intention of Congress to limit such comprehensive development as will provide for the consumptive use of all of the water apportioned to the upper basin.

A bill passed the Senate on March 28, 1961, after the Master filed his Report, which will increase upper basin depletions by about 360,000 acre-feet,³ and others are pending for early action.

G. Hydrologic Factors

With respect to the "science of hydrology" (Rep. 103), the Master's criticisms relate to three topics: (a) general criticisms, (b) the period selected for analysis, and (c) difficulties of reservoir operation. These are discussed briefly below, in the light of a subsequent Bureau of Reclamation report, dated September 1960, which was not available to the Master or ourselves at the time of oral argument.

1. *The Master's General Criticism of the Science of Hydrology*

The Master's general comments on the imperfections of the science of hydrology (Rep. 105-10), if justified,

²"It is not the intention of Congress, in authorizing only those projects designated in section 1 of this act [43 U.S.C. § 620], and in authorizing priority in planning only those additional projects designated in section 2 [43 U.S.C. § 620a] of this act, to limit, restrict, or otherwise interfere with such comprehensive development as will provide for the consumptive use by States of the Upper Colorado River Basin of waters, the use of which is apportioned to the Upper Colorado River Basin by the Colorado River Compact and to each State thereof by the Upper Colorado River Basin Compact, nor to preclude consideration and authorization by the Congress of additional projects under the allocations in the compacts as additional needs are indicated." (70 Stat. 107 (1956), 43 U.S.C. § 620b (1958).)

³S. 107, 87th Cong., 1st Sess. (1961), authorizing construction of the San Juan Chama-Navajo Project, New Mexico.

would just about make it impossible to plan any project anywhere. Whatever the merit of the criticisms, the weight to be given to them is in the *reduction*, not the increase, of the experts' projection of the dependable supply.

The Master treats of only two serious problems: selection of the proper climatological period, and the difficulty of operating reservoirs to store water over many years.

2. *Period Selected*

The significance of the selection of the period of 1909-1956 was that this was the *wettest* period ending with the latest year of record then available.⁴ If there is no water for new projects based on the water supply of that period, *a fortiori* there is no water available for new projects if any other period ending in 1956 is used. A strong argument can be made for using the 1930-1956 period, which produced an average annual virgin flow some 2,000,000 acre-feet less than that of the 1909-1956 period. In 1945 in *Nebraska v. Wyoming*, 325 U.S. 589, 620-21, this Court said:

"In recommending his apportionment the Special Master did not rest on the long-time average flow of the river. We have discussed the drought which has persisted in this river basin since 1930. No one knows whether it has run its course or whether it represents a new norm. There is no reliable basis for prediction. But a controversy exists; and the decree which is entered must deal with condi-

⁴See Rep. 118 for a comparison of average undepleted or "virgin" flows for four periods ending in 1956. By "virgin" flow is meant the flow which would have existed in a particular year if there had been no man-made depletions at all above that point. *e.g.*, Lee Ferry.

tions as they obtain today. If they substantially change, the decree can be adjusted to meet the new conditions. But the decree which is fashioned must be based, as the Special Master recognized, on the dependable flow. . . . On this record we cannot say that the dependable flow is greater than the average condition which has prevailed since 1930.”⁵

We think the Court may judicially notice from United States Geological Survey records that the “drought” has intensified and continued since 1958,⁶ the last year for which the historic flow at Lee Ferry is shown in the Report (Rep. 117). The safe annual yield, if calculated today, would be less than that calculated at the time of trial. A period of drouth, once recorded, sets the upper limit of the dependable supply. No later succession of wet years can erase that limitation. But an extension, or a future succession, of dry years may establish a more severe limitation.

There is never any assurance that the future will repeat the past, but it is utter folly to assume that the

⁵Dr. Luna B. Leopold, Chief Hydraulic Engineer, U.S. Geological Survey, testified: “One must consider the nature of the problem that he is faced with in trying to choose whether you are going to pay more attention to the upper rather than to the lower limit” of probabilities of water supply. (Tr. 21,453.) This Court has consistently manifested a keen awareness of the hazards of speculative optimism, suggested by the Master’s reaction to Dr. Leopold’s testimony: “I might feel differently if I were going to feed a population of birds or differently if I were going to feed a population of humans.” (Tr. 21,454.) See also *Wyoming v. Colorado*, 259 U.S. 419, 475-76 (1922).

⁶Following are the records of historic flows at Lee Ferry released by the Geological Survey for the two years subsequent to those covered by the Master’s table at Rep. 117:

Water Year	Acre-Feet	Source
1959	6,756,000	U.S.G.S., WSP No. 1633, at 330
1960	9,200,000	U.S.G.S., Provisional Records

future water supply will be *greater* than that shown by past records. Each time this Court has made a determination of water supply it has done so based on past records. This Court has consistently recognized that water supply must be determined and that it must be determined conservatively. *Nebraska v. Wyoming*, 325 U.S. 589, 620-21 (1945); *Colorado v. Kansas*, 320 U.S. 383, 396-97 (1943); *Washington v. Oregon*, 297 U.S. 517, 520 (1936); *Wyoming v. Colorado*, 259 U.S. 419, 471 (1922). The Boulder Canyon Project was reported to Congress as feasible upon that same hypothesis.⁷

The records available in this case are far better, both in length of record and accuracy,⁸ than those which the Court employed in *Nebraska v. Wyoming* and *Wyoming v. Colorado*, *supra*. (See plates 4, 5, and 6 which graphically compare the length of stream flow record

⁷See p. 239 note 3 *supra* (Sibert Board Report), p. A200.

⁸S. Doc. No. 79, 86th Cong., 2d Sess. 69-70 (1960), presents this appraisal by the Federal Power Commission of the historical records:

"A gaging station at Lees Ferry has been maintained by the U.S. Geological Survey (USGS) since the summer of 1921. According to the published USGS Water Supply papers, the recorded flows at Lees Ferry, for the water years 1922 through 1958, are excellent."

As to earlier water years, the same document quotes an appraisal by a USGS engineer:

"The stream flow records of Colorado River at Lee's Ferry, Arizona have probably been given more critical examination than those on any other river in the United States, both by the Geological Survey and by other agencies. While the estimated or computed records are not to be considered as good as the gaging station records, the runoff figures published in W.S.P. 1313 for such periods are probably as good as any that can be derived from existing data. It is doubtful that, on an annual basis, any gross errors have been introduced; those errors that are inevitable are undoubtedly of a compensating nature." *Id.* at 77-78.

on the Colorado with the records employed in the two earlier cases.) There is no conflict in the evidence in this case with respect to the hydrologic data. All parties used substantially identical data.

3. *The Difficulty of Operating Reservoirs*

The Master says "it is unrealistic to take the average yearly inflow into Lake Mead for a 30- or 50-year period and assume that this, less evaporation losses, will in fact be the actual yearly supply released from Lake Mead" (Rep. 108). Again, "It might be that over a short period of less than ten years Hoover Dam could be operated flexibly enough to translate the total inflow into an average yearly release. But it is most unlikely that it can be done over a longer period" (*id.*).

If this is so, then it becomes important to examine the flow the Master reports for the critical decade 1931-1940.⁹ During this period the total historical flow at Lee Ferry was only 101,510,200 acre-feet (Rep. 146). The inflow between Lee Ferry and Hoover Dam in these 10 years was approximately 8,670,000 acre-feet (Rep. 123), making a total inflow of 110,180,200 acre-feet, offset by reservoir losses aggregating approximately 7,510,000 acre-feet (Rep. 124),¹⁰ which reduced the quantity available—the "whole universe"—to about 102,670,200 acre-feet. This could have been regulated, at best, to an average annual discharge of only 10.27 million acre-feet from Hoover Dam. This was at a

⁹This happens to be the same critical period which the Court examined in *Nebraska v. Wyoming*, 325 U.S. 589 (1945).

¹⁰The table at Rep. 124 commences with 1935. The average evaporation for the whole period shown, 1935-1950, which included years of very low reservoir content during the filling period (1935-1941), as well as years when content was high, was 751,000 acre-feet per annum.

time when upper basin depletions averaged less than 1,680,780 acre-feet.¹¹ If upper basin depletions should increase only to the level which will be attained by existing and presently authorized projects, 3,840,000 acre-feet per annum (Rep. 115), an increase of 2.16 million, the residual regulated release from Hoover Dam in a dry decade like 1931-1940 would be diminished to an average of 8.11 million acre-feet per annum.¹²

The treaty requirements and net losses below Hoover Dam, based on California's evidence, projected for the future (table 6), are about 2.525 million acre-feet.¹³ Subtracting these from the average Hoover Dam release last shown (8.11 million acre-feet), the residue available for consumptive use—the dependable supply—would be less than 5.6 million acre-feet per annum for Arizona, California, and Nevada.

Hence, we emphasize heavily: The water supply studies were designed to show, and did show, only the

¹¹Determined, as the Master determines them (Rep. 111 n.40), "by comparing the historic flow with the virgin flow figures at Lee Ferry" in his tables at Rep. 117, 118.

¹²The period of 1931-1940 was not, unfortunately, an isolated phenomenon. The eight years 1953-1960 were the driest eight years in sequence in the 65-year period of record.

The 8-year total of measured runoff for the Colorado River at Lee Ferry for water years 1953-1960 was 79,285,000 acre-feet. (1953-1958, Rep. 117; 1959, U.S.G.S. Water Supply Paper 1633; 1960, U.S.G.S. Provisional Records.) The previous 8-year low was 1933-1940 with a measured runoff of 79,836,400 acre-feet (Rep. 117).

The U.S. Weather Bureau forecasts 8,000,000 acre-feet of runoff for water year 1961. U.S. WEATHER BUREAU, WATER SUPPLY FORECASTS FOR WESTERN UNITED STATES, vol. 13, No. 5 (May 1, 1961), p. 12. Adding this amount to the 8-year measured flow would result in a new 9-year low of about 87,285,000 acre-feet. The previous low for 9 consecutive years was 94,428,600 acre-feet, for 1931-1939.

¹³See p. 260 *infra*.

maximum dependable future water supply which could be made available by theoretically perfect reservoir operation. It was about 6 million acre-feet. No actual operation of the reservoir could make that much water available, for reasons the Master recognizes. (Rep. 108-09.)

4. *Bureau of Reclamation Studies, After the Close of Trial*

The latest Bureau of Reclamation study, published after the trial,¹ confirms that calculation of anticipated inflow at Lee Ferry from the upper basin is not only feasible, but is absolutely essential in determining releases from Lake Mead. We think it is judicially noticeable, and we are tendering a copy to this Court and to each of the other parties. This publication is a preview of what the Master anticipates, a determination of the total amount of water to be released by the Secretary from Lake Mead and from the several reservoirs "in his reasoned discretion" (Rep. 305).

Tables 4 and 5 in the appendix *infra* are the relevant portions of tables 5 and 7 of the 1960 Bureau report. They show the total water to be released at Hoover Dam. Sustained releases projected by the Bureau will be 9,800,000 acre-feet per annum under 1975 conditions (table 4 *infra*). They would be 8,500,000 acre-feet per annum under anticipated 2020 conditions

¹BUREAU OF RECLAMATION, REGIONAL OFFICE, REGION 4, U.S. DEPT OF THE INTERIOR, FINANCIAL AND POWER RATE ANALYSIS, COLORADO RIVER STORAGE PROJECT AND PARTICIPATING PROJECTS (September 1960).

(table 5 *infra*).² In both cases there would be additional releases or "spill" in some years shown in column 19. The spill must be disregarded in determining usable water supply for consumptive use. The only utility of spill is generation of nonfirm energy. Spill occurs only during the wet years when the reservoirs are full, and the report shows no spill at all from Lake Mead during the 29-year drouth period following the year corresponding to 1930.

The Bureau's projection is the latest and most authoritative statement of how the Bureau of Reclamation intends to operate the river. The water supply available for allocation to the three states, each state's allocation, and the quantity available for Metropolitan within California's allocation can all be calculated with some precision.³ By 1975, there will be only 538,000 acre-feet available to Metropolitan (60 per cent of its use in 1960) and its whole supply will be extinguished by the year 2006.

Details of the calculation are shown in table 6 *infra*.

²By comparison, the California projection of average annual regulated Hoover Dam releases, upon which the dependable supply of 5.85 million acre-feet was based, was 8.7 million (*infra* plate 7). In December 1957, the Secretary of the Interior estimated that downstream demands for water released from Lake Mead would be 8,903,000 acre-feet in 1970, with allowance only for existing lower basin projects. S. Doc. No. 77, 85th Cong., 2d Sess. 9 (1958).

³For Metropolitan to receive any water at all, there must first be satisfied about 3.9 million acre-feet of senior California priorities recognized by the decree; 3.85 million acre-feet established in the Seven-Party Agreement, plus about 40,000 acre-feet of Indian priorities added by the Master. The 3.9 million acre-feet is 44/75 of 6.65 million acre-feet.

The sole fact upon which there is room for difference of opinion is the date when complete utilization will occur. We think that the Bureau's study underestimates the rate of upper basin development. We offered to establish that the upper basin depletion would expand at such a rate that Metropolitan would lose its entire supply not later than 1990. The Master denies our motion for opportunity to do so (Rep. 112 n.41). But even if the Bureau's projection of upper basin depletions were correct, there is only a 16-year difference between the two estimated dates of doomsday for Metropolitan.

V. THE PROPOSED ALLOCATION, TESTED BY THE REALITIES OF THE WATER SUPPLY, IS INCONSISTENT AND INEQUITABLE

If water were permanently abundant, the terms of a formula to allocate its use would be inconsequential. But tested against the realities of the water supply, the Master's proration formula is internally inconsistent and produces wholly inequitable results. This comes from his ignoring his own characterization of "present perfected rights" as rights in natural flow not dependent upon the existence of storage (Rep. 308), and allocating shortages in stored water as though the contrary were true (Rep. 306).

This operation of the Master's formula is described below and illustrated on plate 9 *infra*.

A. Rights in Natural Flow Not Dependent on Storage

Arizona and Nevada concede that prior to June 25, 1929, the natural or unregulated flow of the main stream of the Colorado River sustained a total of at least 3,150,000 acre-feet of beneficial consumptive use annually in California, Arizona, and Nevada. Of that total, Arizona and Nevada concede that appropriators in California beneficially consumed at least 2,900,000 acre-feet annually⁴ (about 92 per cent of the total), and Arizona consumed about 250,000 acre-feet annually (or about 8 per cent of the total).⁵ Any uses by Nevada from the main stream prior to 1929 were insignificant.

The foregoing figures represent the minimum of the rights California had established in natural flow, unaided by storage. We assert that our valid appropria-

⁴See, *e.g.*, Ariz. Reply to Defendants' Answer, par. 28(b), p. 26, in which Arizona conceded to California 2,902,000 acre-feet of such uses (reckoned by depletion); Nev. Comments on the Special Master's Draft Report, p. 24, which conceded to California for non-Indian projects 2,944,560 acre-feet of such uses. The addition of estimated Indian uses and uses on other federal reservations in California of the unregulated flow of the Colorado River before June 25, 1929, brings the total uses in California from that flow to much more than 2,900,000 acre-feet of beneficial consumptive use annually.

⁵See, *e.g.*, Nev. Comments on the Special Master's Draft Report, p. 24, acknowledging about 188,000 acre-feet of non-Indian uses in Arizona prior to June 25, 1929. To that figure has been added the estimate of actual Indian uses as of that date to reach the rounded total of 250,000 acre-feet annually. Moreover, par. 4(b), pp. 13-14, of Ariz. Reply to Defendants' Answer asserts that 73,000 acres of Arizona lands were served by water diverted from the main stream of the Colorado River as of November 24, 1922. At 3.5 acre-feet per acre of beneficial consumptive use, this would amount to about 255,500 acre-feet, or a rounded total of 250,000 acre-feet.

3 tive rights as of June 25, 1929, were very much larger, even if limited to those capable of being satisfied from regulated flow without Hoover Dam storage. (*Supra* Statement of the Case, p. 12 note 5.)

But the lesser quantities of California uses of natural flow conceded by our opponents will make our point.

B. Allocation of the Benefits of Storage

If, after construction of Hoover Dam, a sufficient supply from the main stream were available to satisfy 6,000,000 acre-feet of consumptive use annually (an increase over the unregulated flow of 2,850,000 acre-feet),⁶ California, under the Master's "contractual allocation scheme" would receive an additional 600,000 acre-feet from the regulation provided by Hoover Dam.⁷ Arizona and Nevada would share the remaining 2,250,000 acre-feet of "new" water made available by regulation.⁸

⁶The dependable main stream supply permanently available for consumptive use in the lower basin of 6,000,000 acre-feet per annum (*supra* p. 245) provides this increase of 2,850,000 acre-feet of water over and above the 3,150,000 acre-feet in use by June 25, 1929.

⁷44/75 of 6,000,000 equals approximately 3,500,000 acre-feet (rounded to the nearest 100,000 acre-feet), which is 600,000 acre-feet more than the 2,900,000 acre-feet which Arizona and Nevada concede was in use in California by June 25, 1929.

⁸31/75 (28/75 for Arizona and 3/75 for Nevada) of 6,000,000 equals approximately 2,500,000 acre-feet, which is 2,250,000 acre-feet more than the 250,000 acre-feet in use in both of these states by June 25, 1929.

If releases from Hoover Dam were sufficient to sustain 7,500,000 acre-feet of consumptive use annually (an increase of 4,350,000 acre-feet over that assumed to be available from the unregulated supply), California would receive only 1,500,000 acre-feet of consumptive use from the supply made available by regulation provided by Hoover Dam,⁹ and Arizona and Nevada would receive 2,850,000 acre-feet of such "new" waters.¹⁰

In other words, if total "mainstream" consumptive use were 6,000,000 acre-feet, California would be allocated 22 per cent, and Arizona and Nevada 78 per cent¹¹ of the new water made available by Hoover Dam. If total "mainstream" consumptive use should be 7,500,000 acre-feet, the respective shares of the new water are 34 per cent for California and 66 per cent for Arizona and Nevada.¹²

The comparisons stated above are summarized in the following table and are shown graphically on plate 9 *infra*.

⁹44/75 of 7,500,000 equals 4,400,000 acre-feet, which is 1,500,000 acre-feet more than the 2,900,000 acre-feet in use in California by June 25, 1929.

¹⁰31/75 (*supra* note 8) of 7,500,000 acre-feet equals 3,100,000 acre-feet, which is 2,850,000 acre-feet more than the 250,000 acre-feet in use in both states by June 25, 1929.

¹¹See *infra* p. 265, table A.

¹²See *infra* p. 265, table B.

ALLOCATIONS OF BENEFITS OF STORAGE RESULTING FROM THE MASTER'S FORMULA

A. If the supply will sustain only 6 million acre-feet of consumptive use:

State	Allocation	Use of natural flow	Incremental use of new water	Percentage of total incremental use of new water
Arizona	2,240,000	250,000	1,990,000	69.8
California	3,520,000	2,900,000	620,000	21.8
Nevada	240,000	0	240,000	8.4
Total	6,000,000	3,150,000	2,850,000	100

B. If the supply will sustain 7.5 million acre-feet of consumptive use:

State	Allocation	Use of natural flow	Incremental use of new water	Percentage of total incremental use of new water
Arizona	2,800,000	250,000	2,550,000	58.6
California	4,400,000	2,900,000	1,500,000	34.5
Nevada	300,000	0	300,000	6.9
Total	7,500,000	3,150,000	4,350,000	100

C. Allocation of the Burden of Shortages

But *shortages*, if the supply will not sustain consumptive use of 7.5 million acre-feet, are allocated as follows:

ALLOCATION OF SHORTAGES IN STORED WATER, CONTRASTED WITH ALLOCATION OF BENEFITS OF STORAGE, RESULTING FROM MASTER'S FORMULA

State	Percentage of shortage borne	Contrasting percentage of allocation of new water	
		If supply is 6 million	If supply is 7.5 million
Arizona	37 1/3 (28/75)	69.8	58.6
California	58 2/3 (44/75)	21.8	34.5
Nevada	4 (3/75)	8.4	6.9
Total	100	100	100

In summary, the Master's formula awards the lion's share of the new water (66 to 78 per cent) to Arizona and Nevada and 22 to 34 per cent to California, while burdening California with 58-2/3 per cent of any shortage below 7.5 million (unless the total supply falls below 3,150,000 acre-feet, far below any possibility suggested by anyone).

If this is the law, and always was, the question naturally arises why Arizona opposed passage of the Boulder Canyon Project Act, containing the provisions which the Master reads as dictating this result, and why Arizona, in three previous trips to this Court, has attacked the Project Act.

The Master's formula, applied to the realities of the water supply, produces a result so palpably illogical as to demonstrate that there is something wrong with its whole structure, its premises as well as its conclusion.

VI. THE PROPOSED ALLOCATION, TESTED BY THE REALITIES OF THE WATER SUPPLY, WOULD DESTROY THE WATER RIGHTS OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, AND SHOULD BE REJECTED ON EQUITABLE GROUNDS

The burden of the Master's formula falls with particular weight on Metropolitan Water District. In consequence of the internal California priorities which the Master recognizes (Rep. 201, 256 n.4; Decree arts. II(C)(1), III(B), Rep. 350, 353), this district receives no water at all if the supply available for Arizona, Cali-

fornia, and Nevada is insufficient to sustain at least 6.65 million acre-feet of consumptive use.¹

No testimony or calculation in the record, with one exception, supports an estimate of dependable supply as great as 6.65 million acre-feet. The sole exception was based on a hypothesis by Arizona counsel as to the upper division's obligations under Article III(c) of the Compact, later disowned by Arizona counsel.²

Even if the Project Act is construed to have created a "contractual allocation scheme," inferentially displacing priorities by proration, *sub silentio*, there is nothing to indicate that it also, *sub silentio*, abrogated the other great element of the law of equitable apportionment, *i.e.*, the protection of existing uses, and directed the disregard of existing uses in favor of new ones. Every element of equity weighs against such a result, particularly with respect to Metropolitan Water District, for reasons uniquely applicable to it.

Metropolitan Water District alone, of those who have contracted with the Secretary for the storage and delivery of water, was required to, and did, agree to underwrite a portion of the cost of Hoover Dam as a consideration for getting its water contract. Its water and power contracts were originally made under section 4(b) of the act,³ as well as under section 5. Under the terms of the Boulder Canyon Project Adjustment

¹See p. 260 note 3 *supra*.

²*Supra* p. 245 note 4.

³Section 4(b) of the Project Act provides, with respect to Hoover Dam (Rep. app. 383-84):

"(b) Before any money is appropriated for the construction of said dam or power plant, or any construction work done or

Act,⁴ it was required to, and did, agree to pay for 35 per cent of the firm energy to be generated at Hoover Dam, to be used only to pump project water through its aqueduct, whether the power is used or not.⁵ It paid the United States \$5,886,263 in fulfillment of its obligation to pay for unused energy.⁶ The Secretary's findings under that act⁷ show that payments by Metro-

contracted for, the Secretary of the Interior shall make provision for revenues by contract, in accordance with the provisions of this Act, adequate in his judgment to insure payment of all expenses of operation and maintenance of said works incurred by the United States and the repayment, within fifty years from the date of the completion of said works, of all amounts advanced to the fund under subdivision (b) of section 2 for such works, together with interest thereon made reimbursable under this Act."

⁴54 Stat. 774 (1940), as amended, 43 U.S.C. §§ 618-618o (1958).

⁵Calif. Ex. 415 (Tr. 9,395), art. 14, quoted in Sp. M. Ex. 2 for iden. (Tr. 212) at 333; *id.* art. 7(c)(1), at 325, as amended by Calif. Ex. 416 (Tr. 9,395), art. 5, quoted in Sp. M. Ex. 2 for iden., *supra*, at 352; see also Calif. Ex. 417 (Tr. 9,395), arts. 9(a) and 14(a), quoted in Sp. M. Ex. 2 for iden. (Tr. 212) at 861, 865.

⁶Tr. 9,669 (McKinlay); Calif. Ex. 482 (Tr. 9,395), col. 4. Since 1940, the increase in costs of steam-generated power has made it possible for the Secretary to resell unused Metropolitan power at its contract rates, crediting the proceeds to the district's obligation. As long as this situation prevails, it is not expected that losses of this type will recur.

⁷See the Secretary of the Interior's Third Annual Report of Operations Under the Boulder Canyon Project Adjustment Act (1945), table facing p. 30. Total anticipated revenues from firm energy sales are \$229,359,882 (column 7), of which Metropolitan is obligated to pay about 35% (see contracts cited note 5 *supra*); or about \$80,000,000. Anticipated revenues of \$7,569,220 (column 9) from charges for stored water are all derived from Metropolitan. Thus Metropolitan's scheduled share of the \$251,000,000 cost of Hoover Dam (column 10) is about \$88 million.

politan over a 50-year period are expected to provide about \$8,000,000 for stored water and about \$80,000,000 for power to be used to pump that water. These revenues amount to over a third of those relied upon by the Secretary to meet the revenue requirements of the act. Only Metropolitan and the State of Nevada, of all water contractors, have been required to pay for the use of stored waters; in contrast, not a dime has been paid by Arizona or any Arizona user for stored water.⁸

The Master may or may not be right in saying that some section 5 water delivery contracts, notably Arizona's, "are not contracts in the ordinary sense" and that the "Secretary is bound by those terms, as are the contractees, not because of the legal chemistry of offer, acceptance and consideration, but because they are part of the statutory scheme provided for in the Boulder Canyon Project Act" (Rep. 207). But the Master is demonstrably wrong as to Metropolitan Water District's contract. The Metropolitan water contract and its concomitant power contract were made under section 4(b) as well as section 5, and the two are certainly contracts in the ordinary sense, containing all of the elements of offer, acceptance, and consideration—\$88 million of it (as demonstrated in the preceding paragraph).

In reliance on that contract, Metropolitan Water District has spent approximately \$400 million of its own

⁸Calif. Ex. 2718 in part in evidence and in part for iden. (Tr. 17,234-35); U.S. Dep't of Interior, Bureau of Reclamation, Determination of Energy Rates Effective June 1, 1960, schedule 1.

money to build the Colorado River Aqueduct Project.¹ In addition, San Diego County Water Authority, as of November 30, 1956, had expended about \$43,300,000 for the San Diego Aqueduct, and its unpaid obligation to the United States therefor was about \$56,770,000. In 1960, the third barrel of the San Diego Aqueduct was completed at a cost of \$55,000,000, of which Metropolitan will pay \$20,000,000 and the Authority will pay \$35,000,000.^{1a} Further, Metropolitan Water District contributed over \$7,000,000 to the United States for the construction of Parker Dam² to impound Havasu Lake as a diversion point. One of the proposed Central Arizona Project routes would make similar use without cost of the lake thus created.

The interpretations of the Project Act and Compact relied upon by Metropolitan in making these investments under its Government contracts were substantially the same interpretations as were then asserted by Arizona—and asserted as the reason why Arizona rejected the Compact and sought to enjoin construction of the dam whose benefits are now awarded her and taken from Metropolitan Water District.³

Congress has enacted at least four important pieces of legislation implementing Metropolitan's Colorado River Aqueduct Project and clearly must have been

¹See 22 MWD ANN. REP. (1960), table 6, at 11, "Grand Total \$212,356,138"; table 14, at 27, grand total \$172,842,930; *id.*, estimated cost of the northerly 36.3 miles of First San Diego Aqueduct (2 barrels) \$15,479,449. These items total \$400,678,517.

^{1a}See appendix, pp. A33 and A34.

²See Metropolitan Finding MWD:114, p. MWD-26; Calif. Ex. 477 (Tr. 9,395), at 4.

³Calif. Exs. 1340 (Tr. 11,548), at 2-4; 1342 (Tr. 11,553); and 2042 (Tr. 12,375).

aware that the district's water contracts were the foundation of that project.⁴ They have also been called to this Court's attention in Arizona's prior suits here.⁵

It would come with particular irony if Metropolitan Water District, the integrity of whose obligation assures repayment of a third of the Government's investment in Hoover Dam, should see its aqueduct rendered useless in order to provide Arizona with water—water which would not be available at all if Hoover Dam did not exist, for an aqueduct in the state which did its utmost, in Congress and in this Court, to prevent construction of that same dam.

This result is not equitable. The principle involved need not be catalogued with nicety as estoppel, or preclusion, or timeliness, or by another name. Such labels are not important. *Cf. Tacoma v. Taxpayers of Tacoma*, 357 U.S. 320, 336-37 (1958).

Perhaps the best name for the principle invoked is just "fair play."

⁴By the Act of June 18, 1932, 47 Stat. 324, Congress granted the district a right of way for the aqueduct across the public lands. Calif. Ex. 450 (Tr. 9,395). Section 2 of the Act of Aug. 30, 1935, 49 Stat. 1039, authorized the construction of Parker Dam and "validated and ratified . . . all contracts and agreements . . . executed in connection therewith." Calif. Ex. 472 (Tr. 9,395). The acts of April 15, 1948 (62 Stat. 171), Calif. Ex. 500 for idem. (Tr. 9,395), and Oct. 11, 1951 (65 Stat. 404), Calif. Ex. 502 (Tr. 9,395), authorized the first and second barrels of the San Diego Aqueduct.

⁵*Arizona v. California*, 298 U.S. 558, 564 (1936); *United States v. Arizona*, 295 U.S. 174, 181, 186-87 (1935); *Arizona v. California*, 283 U.S. 423, 450 (1931).

The principle is recognized by the Master, its application refused. The principle is that which the Master himself applies on the upper Gila (Rep. 326):

"It is worthy of note that the Court, in an equitable apportionment suit, has never reduced junior upstream existing uses by rigid application of priority of appropriation. Indeed, the tendency has been to protect existing uses wherever possible. See *Washington v. Oregon*, 297 U.S. 517 (1936); *Kansas v. Colorado*, 206 U.S. 46 (1907)."

A fortiori, this salutary rule should apply where, as here, the use which would be destroyed is that of a long-established and senior use vis-a-vis Arizona's "paper filing," her 1944 water contract.⁶

No decree of this or any other court has ever worked such destruction. We believe this very fact is a compelling reason to believe there is legal error in the decision which would produce it. Even the Master conceded from the bench during argument in New York City in 1960 the relevance of water supply in this sense:

"I suppose it is true that if a particular determination would lead to a genuine disaster, I suppose we would agree that that would be a good reason for reexamining it to see whether perhaps we did fumble somewhere en route and perhaps the Court ought to so fashion its decree so that disaster should be avoided." (Tr. 22,976.)

" "

⁶Rep. 307-08. The Master ascribes to the Project Act the intent to reject all priorities of "paper filings." The term is appropriate to describe Arizona's 1944 contract, but not the water rights of projects in existence or under construction which had become the foundation of a going economy.

"I naturally am very deeply concerned about any set of facts or arguments which suggest the possibility that the spigots on the Metropolitan Aqueduct will have to be turned shut, and if I believed any such thing I would have strained every legal document to try to prevent that because I adhere to the notion that it is true that some of the authors you quoted the other day—that such projects should not be turned off because some interesting legal conception is valid and it has some property significance along the lines you argued this morning.

"I have not heretofore persuaded myself that such was the fact. Nothing I have heard suggests that such is the fact and nothing persuades me that such is likely to be the fact within the unforeseeable future, not to say foreseeable future." (Tr. 23,-092-93.)⁷

⁷Plate 10 *infra* shows graphically the flow at Lee Ferry required to fulfill the Master's assurance that his formula will not occasion shortage to Metropolitan. Shortly stated:

1. A Lee Ferry flow of at least 11.174 million acre-feet is needed to furnish Metropolitan a full supply. Losses below Lee Ferry included in this calculation are the lowest projected in the evidence, in association with reservoir capacity existing and authorized.

2. A Lee Ferry virgin flow of 13.724 million acre-feet is needed to furnish Metropolitan a full supply and to sustain only the 2.55 million acre-feet of upper basin depletions which will exist by 1963. This is *greater* than the average virgin flow for the period 1930-1956, which was only 13.085 million. Calif. Exs. 2202, 2202A (Tr. 11,713A).

3. A Lee Ferry virgin flow of 15.015 million acre-feet is needed to furnish Metropolitan a full supply and to sustain only the 3.841 million acre-feet of upper basin depletions which will exist by 1970. This is only 165,000 acre-feet less than the average annual virgin flow for the whole period of flow in evidence at the trial, 1896-1956. (*Id.*)

4. A Lee Ferry virgin flow of 18.67 million acre-feet is needed to furnish Metropolitan a full supply and to sustain

In the New York City argument he also declared his certainty that "neither in my lifetime, nor in your lifetime, nor the lifetime of your children and great-grandchildren will there be an inadequate supply of water" for the Metropolitan Aqueduct "or its contemplated expansion." (Tr. 23,084.) Under the formula devised by the Master, realization of that prophecy requires 8,824,000 acre-feet per annum⁸ of consumptive use from the "mainstream" (ignoring California Indian uses), and a flow of substantially more than 11,000,000 acre-feet at Lee Ferry to include satisfaction of the Mexican Treaty burden and unavoidable evaporation and transit losses.⁹ (See appendix, pp. A44-46.)

The Master now modifies this assurance, saying that consumptive use of 7,667,770 acre-feet per year¹⁰ from

depletions in the amount of the upper basin's full apportionment of 7.5 million acre-feet. This is impossible. It is nearly a million acre-feet in excess of the virgin flow for the *wettest* period of record, 1909-1929. (*Id.*)

⁸For Metropolitan Water District to receive a full supply of 1,212,000 acre-feet, junior as this district is to 3,850,000 acre-feet of senior priorities, California would have to receive 5,062,000 acre-feet. As this is 662,000 in excess of 4.4 million, the Master's formula would accord Arizona and Nevada 662,000 acre-feet in excess of 3.1 million, or 3,762,000.

⁹*Supra* p. 273 note 7.

¹⁰The Master's figure of 7,667,770 acre-feet should be 7,872,784 acre-feet. He tabulates California's existing uses at 4,483,885 acre-feet per annum. (Rep. 128.) Footnote 73, on the cited page, reveals that in 1957 Metropolitan Water District's uses had increased by more than 100,000 acre-feet, making the proper total 4,586,392 acre-feet. The computation of the "mainstream" consumptive use required to provide 4,586,392 acre-feet for California under the Master's formula is derived by working the formula backward:

Three states	California	Arizona	Nevada
7,500,000	(44/75) 4,400,000	(28/75) 2,800,000	(3/75) 300,000
372,784	(1/2) 186,392	(1/2) 186,392	0
Total 7,872,784	4,586,392	2,986,392	300,000

what he calls the "mainstream" would satisfy all of California's "existing uses," approximately 4.6 million acre-feet per annum in 1957, under his formula. (Rep. 104.) This would curtail Metropolitan Water District to about two thirds of what it is now using; the event will not wait upon the arrival of our great-grandchildren.

The Report says (Rep. 102):

"[California] contends that application of the apportionment formula recommended in this Report to this supply of water would *seriously curtail existing uses of mainstream water in California and might eliminate all diversions by the Metropolitan Water District*, which serves Los Angeles and other cities on the Southern California coastal plain.

"While legally irrelevant, such a result, if at all probable, would arouse the greatest apprehension. However, the record in this case gives no indication that the 'chaotic disaster' which California fears will, or is likely to, materialize. Her dire predictions appear to be unfounded." (Emphasis added.)

The last sentence contradicts everything the Master states about justiciability (Rep. 129-35), and in the same breath, the Master rejects all scientific evidence and refuses to receive any evidence at all on the anticipated rate of depletion in the upper basin, which together are the bases of what are not only "dire predictions," but inescapable certainties.¹

¹See table 6 *infra*.

In these circumstances, disagreement as to the rate of expansion of upstream depletion is immaterial. If the Master's decree is adopted, only the date of the Colorado River Aqueduct's extinction is uncertain.

This problem is not capable of solution, as the Master suggests it may be, by hopes for changes in "supply conditions" (*i.e.*, more rain?) or for advances in "conservation or even production of water" (Rep. 114). If such risks are to be taken, let them be borne by the new project which asserts such hopes. As an alternative, the Master suggests in a footnote (Rep. 103 n.25) that a substantial reduction can be made in the amount of water needed to satisfy existing California uses, such as by reducing the runoff to the Salton Sea. This question was vigorously litigated for several weeks. Arizona did not even submit proposed findings on the subject, possibly because it developed that (1) the runoff to the Salton Sea is essential to prevent accumulation of salts in Imperial Valley lands,² (2) the farm efficiency (*i.e.*, the ratio of the quantity of water consumed by crops to the quantity diverted) of Imperial Irrigation District is among the highest of all reclamation projects in the lower basin,³ (3) the farm efficiency which Arizona would require of Imperial is 75 per cent, whereas the Central Arizona Project would yield only 52 per cent.⁴ It is surprising to find the issue revived (it was not mentioned in the Master's draft report nor in any comments on it), and so casually disposed of.

²See summary in Calif. Finding 4C:106, pp. IV-21 and IV-22, particularly note 5.

³Calif. Exs. 5106-5109 (Tr. 20,768-69); Calif. Ex. 5110 for *iden.* (Tr. 20,769); Calif. Exs. 5111-5113 for *iden.* (Tr. 20,774); Calif. Finding 4C:106, pp. IV-21 through 24.

⁴Calif. Ex. 3047 (Tr. 19,860).

via a footnote, to California's disadvantage. If water is to be saved by improved efficiencies, let it first be done on the Arizona "mainstream" projects (Rep. 127). The diversion per acre is higher than it is for Imperial Irrigation District,¹⁴ and the Master is unable to ascertain any figure for return flow from those Arizona projects which will enable him to compute their consumptive use (Rep. 126-27).

VII. CALIFORNIA DOES NOT ASK THAT UNUSED UPPER BASIN WATER WASTE TO THE SEA, BUT THAT THE RISK OF ITS ULTIMATE WITHDRAWAL FALL UPON THE PROJECTS HEREAFTER CONSTRUCTED TO USE IT

California does not ask that any water be required to run to the Gulf of California unused. Rather, we ask that the priorities of the three existing projects in California, and of all existing and authorized projects in Arizona and Nevada, be recognized in the dependable supply, and that the risk of ultimate loss of the water supply in excess of that which is permanently dependable, that is to say, the excess which the lower basin may use only until the upper basin uses its Compact apportionment, be borne by projects which may be authorized in the future. By this we mean, primarily, the proposed Central Arizona Project. If the water supply is as abundant as the Special Master seems to believe, this presents no hazard to that proposed project. If he is wrong, the hazard should not fall upon the projects long since built and the going economy which they sustain.

¹⁴Calif. Ex. 5106 (Tr. 20,768).

The Master obviously is not persuaded that we are correct about the realities of the water supply. There has been a failure of communication on a subject which is at the heart of the controversy. We believe that this case should not be decided until the Court has had the benefit of the best and most precise information available as to how its decree will affect 7,000,000 people who now depend on Colorado River water from projects, the newest of which has been in operation 20 years. To that end, we suggest to this Court the course of action we proposed by motion to the Master:⁵ That the Court appoint, or cause to be appointed, its own experts to examine and report expeditiously on the permanent water supply available from the main stream in the Colorado River basin. Our motion to the Special Master for that purpose is incorporated in the appendix at page A39. We now renew that motion before the Court.

⁵See Calif. Comments, Suggestions, and Motions re Draft Report, submitted June 10, 1960, pp. 62-63.

PART SIX

MISCELLANEOUS MATTERS

1. *The Colorado River Indian Reservation Boundary*

Because of the theory that he adopts as to the measure of water rights for Indian reservations, with which we disagree, (*infra* pp. 283-84), the Special Master finds it necessary to determine the location of a disputed portion of the western boundary of the Colorado River Indian Reservation, located in Arizona and California on the main stream of the Colorado River below Lake Mead. (Rep. 255-57, 274-78.)

The Master's characterization of the boundary dispute as "minor" (Rep. 6 n. 12) accurately describes its posture in this water rights controversy. It is, however, definitely of the first magnitude if it is in any way to be a binding adjudication of land titles or political jurisdiction. Indeed, it is a major lawsuit in itself, involving substantial private and sovereign interests.¹

¹The dispute involves some 2,280 acres of rich agricultural land located within the service area of the Palo Verde Irrigation District. The lands are presently assessed by the district pursuant to California law, some of them since 1927, and are irrigated through the district's facilities and those of the present non-Indian occupants and claimants of the land. See Calif. Finding 18D:113, p. XVIII-38. A major point of controversy centers on alleged avulsive changes in the course of the Colorado River in the reach of the river where it forms the boundary between Arizona and California. Similar difficult issues on other rivers have occupied the attention of this Court in a number of major interstate boundary disputes. See, *e.g.*, *Kansas v. Missouri*, 322 U.S. 213 (1944); *Arkansas v. Tennessee*, 246 U.S. 158 (1918); *Indiana v. Kentucky*, 136 U.S. 479 (1890).

The Master states his reasons for adjudicating the magnitude and priorities of the federal claims for "mainstream" Indian reservations as follows:

"Since the Secretary cannot know how to operate Hoover Dam and the mainstream works below unless the controversy between the United States and the States of Arizona and California is resolved, since failure to adjudicate it will leave non-Indian users in doubt as to the water available for their use, and since this controversy has been properly presented in this case, it is appropriate to adjudicate it here." (Rep. 256-57.)

California contends that it is unnecessary to make a determination of the Colorado River Indian Reservation boundary dispute in order to achieve the stated objectives, and that an unqualified determination² of this dispute will unfairly prejudice the rights of the present non-Indian occupants of the disputed area who are not before the Court. Postponing determination of the boundary dispute does not materially affect the priority of the water right to which the lands are entitled. Palo Verde Irrigation District has the senior priority under the Seven-Party Agreement among the California defendants (Rep. app. 425), and the Master awards the disputed area an Indian priority dating from 1876 (Rep. 273). Consequently, since the disputed lands

²If the Court decides that a determination of the magnitude and priority of the Indian water rights for the disputed area will be useful, the determination could be made expressly contingent on the United States subsequently establishing title to the disputed lands in appropriate proceedings. The Master makes such a conditional determination in his treatment of certain lands involved in the Fort Mohave Indian Reservation boundary dispute. (Finding 14, Rep. 281-82; conclusion 6, Rep. 283.) A similar ruling on the Colorado River Indian Reservation dispute would be even more appropriate.

hold one of the earliest priorities on the river, regardless of the location of the boundary, neither the Secretary nor non-Indian users can be uncertain as to the rank of priority to which the lands are entitled.³

The Special Master asserts that his findings will be binding on the parties, but that, "in the hearings and in this Report, [he] did not inquire into or determine the right of any occupant, whoever he might be, to the possession of lands within the questioned areas" (Rep. 278). We interpret this statement as indicating that the Special Master does not purport to adjudicate land titles in the disputed areas, in accordance with his unequivocal assurances to this effect during the hearings.⁴

³For example, the Report awards substantial quantities of water to the United States for the Lake Mead recreational area (Rep. 295) and the Havasu Lake and Imperial wildlife refuges which lie along the river boundary between states (Rep. 298-300). It does not, however, specify exactly how much of each of these areas lies in each state, even though these federal uses are to be charged against the allocation of the state where they are made (Rep. 312-13). Apparently, the Master does not consider that this unresolved matter will create uncertainty for either the Secretary or water users.

⁴On the Fort Mohave Indian Reservation boundary dispute, tried in conjunction with the dispute on the Colorado River Indian Reservation, the Master declared (Tr. 20,371): "It is not my function to pass on titles. It is only to determine how much water the Indian reservation is entitled to, and there is a margin of error there that you are entitled to pursue." Similarly, with reference to the Colorado River Indian Reservation dispute, the Master asserted that "manifestly we are not going to determine legal title to that [disputed area] in this lawsuit." (Tr. 20,289.)

The Special Master had previously taken note of California's objection that he had no jurisdiction to determine land titles and that California was representing its citizens as *parens patriae* solely with respect to water rights, not land titles. (Tr. 19,998-20,000.) With reference to the status of the party states as representatives of their water users, the Special Master has declined to adjudicate intrastate priorities of water users not actually before the Court. (See, *e.g.*, Rep. 218, 255, 256 n.4, 332.)

However, it is unfair to prejudice any of the parties in future litigation over land titles or political jurisdiction by approving findings on a tangential issue never pleaded by the United States,⁵ and made relevant solely by virtue of the new ground broken by the Master in the field of Indian water rights. The United States should not be permitted, as an incident to its claims for water for the Indian reservations in the lower basin in this water rights litigation, to obtain an unqualified adjudication of jurisdiction and title to valuable lands. Consequently, if the Master's theory of the measure of Indian water rights is adopted, we ask that the Court include the following disclaimer in the decree as article VIII(D) (Rep. 360) to provide that it shall not affect:

“(D) Any right, claim, or interest in land, or jurisdiction with respect to land, by any person, natural, corporate, or political, whether or not a party to this cause.”

As to the merits of the Master's interpretation of the Executive Order of May 15, 1876 (Rep. 270-71), we agree that it established a boundary which changes as the course of the Colorado River changes, but disagree that it fixed the west bank of the Colorado River, rather than the center of the river, as the western boundary of the reservation. The lands comprising the west half of the bed of the navigable Colorado River were not part of the public domain subject to reservation in 1876, since title had previously vested in California on its admission as a state in 1850. See *United States v. Arizona*, 295 U.S. 174, 183 (1935); *United States v. Utah*, 283 U.S. 64 (1931).

⁵See Calif. Finding 18D:119, p. XVIII-45.

Consequently, it is unreasonable to construe the order as purporting to reserve lands which were not in federal ownership. If the order is construed as making the center of the river the boundary, the withdrawal is reasonably confined to the federal lands comprising the east half of the bed of the river (then part of the Arizona territory), and the objective of providing a water boundary for that part of the reservation in Arizona⁶ is just as fully achieved. In any event, it is clear that the order could not affect the title of the State of California to the west half of the bed of the Colorado River. See *Deseret Water, Oil & Irr. Co. v. California*, 167 Cal. 147, 138 Pac. 981 (1914), *rev'd on other grounds*, 243 U.S. 415 (1917).

Secondly, as to the Master's conclusion that the so-called Olive Lake and Ninth Avenue cutoffs effected avulsive changes in the course of the Colorado River in those areas (Rep. 273, 278), we think it clearly erroneous. The meager evidence adduced by the United States upon which the Master bases his conclusion⁷ falls far short of satisfying the difficult burden of proof on a party alleging an avulsion in a water boundary.⁸

2. *Federal Rights for Indian Reservations and Other Federal Lands*

We emphatically disagree with the Special Master's determinations with respect to (1) the basis upon which water rights for Indian reservations and other federal lands in the lower basin are predicated, (2) the

⁶See Rep. 270, Finding 4.

⁷Rep. 271-72. Compare Calif. Findings 18D:122-25, pp. XVIII-48 through 51.

⁸See Calif. Conclusion 18D:208, p. XVIII-52, and cases cited.

quantities impliedly reserved for those reservations, and (3) the priorities accorded to them.

We recognize that the United States may, in setting aside public lands for Indian reservations, similarly reserve waters upon those public lands, either expressly or by implication, for the reasonable future needs of the Indians who are to inhabit those reservations. The United States did not expressly reserve water for the "mainstream" reservations involved in this dispute. Our disagreement is with the Master's findings of *implied* reservations (Rep. 259-60) in the face of substantial evidence to the contrary, and (assuming water was impliedly reserved) his determination that the reasonable needs of the Indians are measured by the irrigable acreage on each reservation (Rep. 262).⁹

However, since the quantities of water for such reservations in California are relatively small, and because none of the parties seem to have excepted to the Special Master's decision that all federal uses in Arizona and Nevada are chargeable to those states out of water from which California uses are excluded by the limitation on California (Rep. 247), we do not brief these questions.

3. *The Inappropriateness of Injunctive Relief*

Except for the controversy between Arizona and New Mexico over Gila River system waters, this suit is declaratory in nature. Therefore, the Special Master errs in casting the provisions of Articles II and III of his

⁹See our comments on the Special Master's draft report pp. 45-53. (June 10, 1960). We briefed the question of Indian water rights before the Special Master. See Calif. Opening Brief, vol. 1, pp. 188-95, April 1, 1959; Calif. Response to U.S. Opening Brief, pp. 112-27, June 11, 1959.

recommended decree concerning the "mainstream" in terms of injunctive relief against any party.

There can be no wrongful conduct by the California defendants inasmuch as the United States, under the Master's decree, controls the Colorado River from Lake Mead to the international boundary. Projects to divert Colorado River water for use in Arizona and Nevada will be constructed by the United States or under its authority, on or across federal lands. The California defendants could not interfere with such construction. Water to supply those projects will be delivered by the Secretary of the Interior who alone can effectively prevent any interference with such deliveries by any California defendant.¹

Finally, no party has expressed any intention to violate any provision of the decree which may be entered by this Court. The California defendants expressly declare that they will not knowingly violate any provision of the decree of this Court.

In *Wyoming v. Colorado*, 298 U.S. 573 (1936), this Court refused to grant injunctive relief under circumstances which might otherwise justify issuance of an injunction in a suit among nonsovereign litigants. This Court held that certain diversions in Colorado "contravene the decree" which had been entered in an

¹Arizona also excepts to the injunctive provisions in articles III(B), (C), and (D) of the recommended decree (Rep. 353-54). Arizona argues that these provisions attempt to transfer to the State of Arizona the duties imposed upon the Secretary of the Interior by the Project Act and his water delivery contracts. Arizona also argues that her authority to prevent interference with the diversions, and uses referred to, is in serious doubt. See Ariz. Motion for Adoption, With Exceptions, of the Master's Report, Exception 35, p. 23. These reasons are equally applicable to the California defendants, and we therefore join in Ariz. Exception 35 for the reasons therein stated.

earlier decision (259 U.S. 496 (1922)) and "infringe Wyoming's rights under it." (298 U.S. at 579.) The Court then stated (*ibid*):

"They [the unlawful diversions in Colorado] were being practiced when the present suit was begun and for a time thereafter, but when the motion to dismiss was overruled they were discontinued pending further action by us. Counsel for Colorado now assure us in their brief that the State does not propose to permit a resumption of these diversions if we hold, as we now do, that they contravene the decree. Because of this assurance, which we accept, there is no present need for granting an injunction in respect of these diversions."

Since injunctive relief was not given in the circumstances described above in *Wyoming v. Colorado*, a fortiori, no injunctive relief should be granted in *Arizona v. California* concerning lower basin waters other than the Gila River system.

Finally, article III of the recommended decree runs not only against the State of California but also against the defendant agencies in this state, unfairly subjecting those agencies to an injunction which does not apply to their counterparts in Arizona and Nevada. There is no basis for such inequitable discrimination.² If

²During the trial of this cause, Arizona was able to secure information from the California defendant agencies by discovery procedures and to put such information in evidence without difficulty because these agencies had been joined as parties by Arizona when she brought this suit. (*E.g.*, Order Requiring Imperial Irrigation District to Permit Inspection and Copying or Photographing Records, entered May 17, 1957.) However, California had no effective means of securing information from similar agencies in Arizona which were not parties to this suit.

injunctive relief is to be granted against California by this Court's decree, it should run only against the State of California, not its public agencies.

4. *The Retention of Jurisdiction for Future "Mainstream"—"Tributary" Controversies*

The Special Master holds that the doctrine of equitable apportionment still controls the rights of "mainstream" users against users in other states of waters from lower basin "tributaries" including users from the main Colorado River between Lee Ferry and Lake Mead (Rep. 316-18.) "California," assures the Master, "will be able to protect herself against undue depletions on tributaries and the mainstream above Lake Mead by compact, or, if the necessity arises, by suit." (Rep. 247.)

The Special Master provides in article IX of his recommended decree that (Rep. 360):

"IX. Any of the parties may apply at the foot of this decree for its amendment or for further relief. The Court retains jurisdiction of this suit for the purpose of any order, direction, or modification of the decree, or any supplementary decree, that may at any time be deemed proper in relation to the subject matter in controversy."

In any lower basin suit involving the waters controlled by Hoover Dam, the United States is an indispensable party. *Arizona v. California*, 298 U.S. 558 (1936). The present suit is possible only because the

Furthermore, it was more difficult for California to lay a sufficient foundation for admission of this material into evidence. (E.g., Tr. 3,108-09, 3,424-31; Calif. Ex. 18 for iden. (Tr. 3,428).) This inequity ought not to be perpetuated by this decree.

United States voluntarily intervened. (See Rep. 2 n. 5a.)

The Master holds that no justiciable interstate controversy presently exists between "mainstream" users and "tributary" users. (Rep. 318-21.) However, he does not specifically provide in article IX of his recommended decree that jurisdiction is retained to adjudicate such controversies if, as, and when they become justiciable.

California should not be placed at the mercy of the decision of the United States to intervene or not to intervene if a new suit should be necessary by California against Arizona. For example, the main Colorado River above Lake Mead within the lower basin includes alternative points of diversion (Rep. 227-28) for the Central Arizona Project, which, Arizona alleged, was the precipitating cause of this litigation (Ariz. Bill of Complaint, par. XX; Rep. 30-31, 130-31). This stretch of the river, however, is outside the terms of the recommended decree (Recommended Decree, art. I(B) and (F); art. VIII(B)) and is left to adjudication in future litigation (Rep. 247, 316-21).

If the Master's truncation of the river system is sustained, we suggest that the decree expressly declare what was probably intended by the language of article IX of the recommended decree, by adding the following language: "including, but not limited to, any interstate proceeding to adjudicate the right of states diverting from the 'mainstream' as against states diverting from the main Colorado River between Lee Ferry and Lake Mead and from all lower basin tributaries."

5. *The Inclusion of Underground Water Uses*

Article I(A) of the Master's recommended decree (Rep. 345) provides that for the purposes of the decree:

"(A) 'Consumptive use' means diversions from the *stream* less such return flow thereto as is available for consumptive use in the United States or in satisfaction of the Mexican Treaty obligation." (Emphasis added.)

The apportionments made by the recommended decree are in terms of consumptive use (*e.g.*, Rep. 347-50, Decree art. II(B)).

The term "stream" in article I(A) of the recommended decree is too limiting a concept to effectuate the evident purpose.

In dealing with New Mexico uses from the Gila River system, the Report and the recommended decree recognize the relationship between surface water and underground water.³ This same relationship applies to the main stream.⁴ There are projects located along the "mainstream" which presently pump and consume substantial quantities of ground water interconnected with the "mainstream" water.⁵ Certainly all water taken and consumed, whether extracted from above or below the ground, should be charged against whatever rights the state in which such water is consumed may have under the decree.

In order to avoid any ambiguity, therefore, we suggest inclusion of the following parenthetical phrase af-

³Rep. 338, findings 12-14; Rep. 354-58, art. IV.

⁴See, *e.g.*, Tr. 11,859-64 (Marliave), Tr. 19,170-72 (Turner), for a description of the interconnection of the surface flow of the Colorado River and underground water in the Yuma, Arizona, area.

⁵See, *e.g.*, Tr. 2,209, 2,382 (Steenbergen); Ariz. Exs. 76 (Tr. 318), table 2, and 79 (Tr. 327), at 6, re ground water pumping in the South Gila Valley.

ter the word "stream" in article I(A): "(including all related underground water)".⁶

6. *Holders of Natural Flow Rights Are Entitled to Water Delivery Contracts*

Article II(C)(1) of the recommended decree requires the Secretary to respect state law in the release of water. It does not, however, require the Secretary to issue a contract to holders of natural flow rights pre-existing the enactment of the Project Act.

We hope, of course, to persuade the Court that the applicable law is contained in the ruling by the Secretary of the Interior in 1930 which was the law relied on when the contracts were written:

"Those possessed of prior rights to the unregulated flow of the river will be privileged to continue the enjoyment of those rights without interference by storage in the Boulder Canyon reservoir." (Calif. Ex. 351, Tr. 9,929.)

There are riparian rights in California, inconsequential in amount, but which may be senior to the appropriative rights recognized in the existing California water delivery contracts. As minimum protection for water users who have relied on the Secretary's decision construing section 5 of the Project Act as applicable only to stored water, the Secretary should be required to issue contracts to the holders of such rights. Such contracts would in no way increase any state's apportionment.

⁶A similar suggestion was made by Nevada. See Nev. Comments on Draft Report, p. 18; transcript of decree conference, Aug. 19, 1960, pp. 11-12.

Accordingly, article II(B)(7)(Rep. 349) should be amended by the addition of the following two sentences:

"The Secretary of the Interior shall issue a contract to any water user in any state, certified by the official or agency in that state responsible for administration of water rights, to have a water right which entitles the water user to use water, which certification shall include all data specified in Article VI. The contract shall entitle the contractee to use water to the extent available under the state's apportionment in accordance with the priority date and quantity of the right certified."

CONCLUSION

The decree which California seeks is fair and equitable, and conforms to every limitation which California has agreed to. That decree would confirm California's existing rights to the annual consumptive use of 4,400,000 acre-feet from the first 7,500,000 acre-feet of annual consumptive use from the Colorado River main stream and tributaries in the lower basin. It would recognize California's rights in one half of excess or surplus annually available over and above that first 7,500,000 acre-feet. It would recognize interstate priorities and principles of equitable apportionment in apportioning the burden of any shortages within the first 7,500,000 acre-feet. It would fully protect all existing main stream projects in Arizona and Nevada, to the full extent of their ultimate development. Only California projects would receive less than their full requirements.

If the Master's optimism about the quantities of water to be available is justified, such a decree would permit expansion of lower basin uses by construction of new projects in Arizona and Nevada. We do not oppose any such projects, if the risk of miscalculation of the water supply rests (as it does in every state of the arid West) on the new ventures, rather than on the existing projects built on the basis of decisions not now reversible and by investments not now recoverable.

For these reasons the California defendants believe and urge that their exceptions which they have jointly made to the Report of the Special Master should be approved by this Court, and that the decree to be entered in this case should be in conformity with those exceptions and the views presented in this brief.

May 22, 1961.

Respectfully submitted,

[Signatures follow on next page.]

For the State of California

STANLEY MOSK
Attorney General
State Building
Los Angeles 12, California

NORTHCUTT ELY
Special Assistant
Attorney General
Tower Building
Washington 5, D. C.

CHARLES E. CORKER
Assistant Attorney General
State Building
Los Angeles 12, California

BURTON J. GINDLER
Deputy Attorney General

GILBERT F. NELSON
Assistant Attorney General

JOHN R. ALEXANDER
Deputy Attorney General
909 South Broadway
Los Angeles 15, California

SHIRLEY M. HUFSTEDLER
610 Rowan Building
Los Angeles 13, California

HOWARD I. FRIEDMAN
523 West Sixth Street
Los Angeles 13, California

C. EMERSON DUNCAN II
JEROME C. MUYS
Tower Building
Washington 5, D. C.

*For Palo Verde Irrigation
District*

FRANCIS E. JENNEY
STANLEY C. LAGERLOF
Special Counsel
500 South Virgil Avenue
Los Angeles 5, California

*For Imperial Irrigation
District*

HARRY W. HORTON
Chief Counsel

R. L. KNOX, JR.
Counsel
Law Building
El Centro, California

*For Coachella Valley County
Water District*

EARL REDWINE
Special Counsel
207 Lewis Building
Main Street at 10th
Riverside, California

*For The Metropolitan Water
District of Southern
California*

JAMES H. HOWARD
Special Counsel

CHARLES C. COOPER, JR.
General Counsel

H. KENNETH HUTCHINSON
Deputy General Counsel
306 West Third Street
Los Angeles 13, California

FRANK P. DOHERTY
Special Counsel
433 South Spring Street
Los Angeles 13, California

For the City of San Diego

JEAN F. DUPAUL
City Attorney
Civic Center
San Diego, California

For the County of San Diego

HENRY A. DIETZ
San Diego County Counsel

ROBERT G. BERREY
Deputy County Counsel
Court House
San Diego, California

For the City of Los Angeles

ROGER ARNEBERGH
City Attorney
City Hall
Los Angeles 12, California

GILMORE TILLMAN
*Chief Assistant City Attorney
for Water and Power*
207 South Broadway
Los Angeles 12, California

APPENDIX

Description and Development of the California Projects

**Motion To Reopen the Trial for the Taking of Evidence
re Depletion of the Colorado River at Lee Ferry by
the Upper Basin**

and

**Statement in Support of Motion Submitted by the Cali-
fornia Defendants to the Special Master, August 31,
1960**

Tables 1-6

Plates 1-11

DESCRIPTION AND DEVELOPMENT OF THE CALIFORNIA PROJECTS

The Master's Report fails to describe adequately the three California projects which depend upon Colorado River water. Those three projects are:

(1) The Palo Verde Irrigation District (described at Rep. 58-60).

(2) The All-American Canal Project (described at Rep. 36-38) which serves the Yuma Project (Reservation Division) in California (described at Rep. 60-61), the Imperial Irrigation District (described at Rep. 53-55), and the Coachella Valley County Water District (described at Rep. 55-58).

(3) The Metropolitan Water District of Southern California, whose Colorado River Aqueduct serves the cities and districts in the southern California coastal basin (described at Rep. 61-71).

The following description of the California projects and their development demonstrates that these projects have been before Congress continuously from 40 to 75 years and have grown with the full knowledge and, indeed, with the assistance of Congress.

1. The Seven-Party Agreement

On August 18, 1931, pursuant to a request from the

Secretary of the Interior,¹ the defendants, other than the State of California, executed an agreement referred to as the "Seven-Party Agreement," fixing the relative rights and priorities of those defendants in the water available for use in California under the Colorado River Compact and the California Limitation Act.² The Division of Water Resources of this state recommended this agreement to the Secretary which was promulgated in general regulations.³ Article I of the Seven-Party Agreement is incorporated *in haec verba* in every water delivery contract executed with these defendant agencies.⁴ That agreement provides in effect the following rights and priorities:

¹Calif. Ex. 1810 (Tr. 12,244).

²Ariz. Ex. 27 (Tr. 242).

³Calif. Ex. 1811 (Tr. 12,244).

⁴*E.g.*, Palo Verde contract art. 6 (Rep. app. 424-29).

<u>Priority No.⁵</u>	<u>Agency and description</u>	<u>Annual quantity in acre-feet (beneficial consumptive use)</u>
1	Palo Verde Irrigation District—104,500 acres in and adjoining existing district	
2	Yuma Project (California division)—not exceeding 25,000 acres..... ⁶	
3	(a) Imperial Irrigation District and lands in Imperial and Coachella Valleys to be served by All-American Canal.....	3,850,000
	(b) Palo Verde Irrigation District—16,000 acres of adjoining mesa....	
4	Metropolitan Water District and/or City of Los Angeles.....	550,000
5	(a) Metropolitan Water District and/or City of Los Angeles.....	550,000
	(b) City and/or County of San Diego	112,000
6	(a) Imperial Irrigation District and lands in Imperial and Coachella Valleys to be served by All-American Canal.....	300,000
	(b) Palo Verde Irrigation District—16,000 acres of adjoining mesa....	
		5,362,000
7	Agricultural use in the Colorado River Basin in California, as designated in Map 23000, U.S. Bureau of Reclamation	All remaining water available for use in California

⁵Priority No. 1 is served by Palo Verde Irrigation District; Nos. 2, 3, 6, and 7 by the All-American Canal; and Nos. 4 and 5 by Metropolitan Water District, in which the Los Angeles and San Diego rights have been consolidated.

⁶No contract has ever been executed with any district within this project pursuant to this agreement. See plate 3 *infra*.

2. Palo Verde Irrigation District, California⁷

Existing project

Palo Verde Irrigation District is located on the west bank of the Colorado River, about 212 miles below Hoover Dam.¹ The diversion works, irrigation distribution system, and protective works of the district consist of the Palo Verde Diversion Dam, 280 miles of canals, 120 miles of drains, 34 miles of levees, and an estimated 450 miles of private ditches.² The district contains within its boundaries about 121,000 acres. There are presently more than 72,000 net acres of land in cultivation in the valley proper and approximately 2,000 acres farmed on the lower mesa.³

Historical background, development, and water rights

The earliest reported settlement was in 1856 by Thomas H. Blythe who, in the early 1870's, acquired approximately 40,000 acres of "swamp and overflow" land.⁴

The first appropriation of water was made by Blythe who, in 1877, posted and filed for 190,000 miner's inches, or 3,800 c.f.s., to irrigate a projected service area of 186,000 acres in the valley and on the lower mesa.⁵ From 1877 to 1883, Blythe constructed a gravity diversion-intake (at the site of the present diversion dam) and also constructed 3½ miles of main canals.⁶

During the period from 1877 to 1925, additional no-

⁷For detailed description of this project and its development, see Calif. Findings and Conclusions, vol. 3.

¹Calif. Ex. 319 (Tr. 8,550).

²Tr. 8,709-10, 8,750 (Tabor).

³Tr. 8,549, 8,715 (Tabor); Calif. Ex. 319 (Tr. 8,550); Tr. 20,725 (Shipley).

⁴See Ariz. Ex. 45 (Tr. 254), p. 56.

⁵Tr. 8,720-21 (Tabor); Calif. Ex. 327 (Tr. 8,574).

⁶*Supra* note 4; Tr. 8,674 (Seeley); Calif. Ex. 330 (Tr. 8,579).

tices of appropriation were posted and recorded by Blythe and his associates and successors in interest. The largest was for 300,000 miner's inches (or 6,000 cubic feet per second); another claim was to serve a maximum gross service area of 285,000 acres.⁷

From 1908 to 1925, canals of sufficient capacity to serve approximately all of the lands in the valley proper were constructed.⁸ In 1925, the system consisted of the "Blythe Intake," approximately 181 miles of canals, and 34 miles of levees.⁹ In addition, the landowners had constructed approximately 185 miles of private canals.¹

In 1925, the Palo Verde Irrigation District acquired the system, including the intake structure, canals, drains, spillways, levees, rights of way, and all rights existing under the appropriations made by Blythe and his successors in interest.²

Within areas in the Palo Verde Irrigation District,³ 116 patents have been issued for lands entered and patented under the Desert Land Act.⁴ These patents were issued on the basis of an express determination, required by the Desert Land Act,⁵ of a valid appropriative

⁷See Calif. Ex. 67 (Tr. 8,611); Tr. 8,721 (Tabor).

⁸Tr. 8,673-74, 8,684 (Seeley); see Ariz. Ex. 45, *supra* note 4, at 57-58.

⁹See Ariz. Ex. 45, *supra* note 4, at 57.

¹Calif. Ex. 365 (Tr. 8,774).

²Calif. Ex. 67 (Tr. 8,611); Tr. 8,598, 8,603; Calif. Ex. 344 (Tr. 8,603); Calif. Ex. 345 (Tr. 8,604).

³Described in Calif. Ex. 4091 (Tr. 22,223), as shown on map, Calif. Ex. 319 (Tr. 8,550).

⁴Tr. 22,230 (Keil). Desert Land Act § 1, 19 Stat. 377 (1877), as amended, 43 U.S.C. § 321 (1958) (text in Calif. Ex. 4000 for iden. (Tr. 20,857) at I-2).

⁵Validity of Desert Land Applications and Entries in Arizona Dependent on Percolating Water for Reclamation, 62 I.D. 49 (1955), text in Calif. Ex. 4000 for iden. (Tr. 20,857), item III-A; Ruby E. Huffman, 64 I.D. 57 (1957), text in Calif. Ex. 4000 for iden., item III-C.

right in Colorado River system water acquired pursuant to state law.⁶ The district (and its predecessors) has been expressly approved by the General Land Office as the source of water supply for desert land entries.⁷

On February 7, 1933, the district entered into a water delivery contract with the Secretary of the Interior for the delivery of water at or near the "Blythe Intake" for the beneficial consumptive use of waters of the Colorado River on the 120,500 acres of the district's service area,⁸ in accord with the Seven-Party Agreement (*supra* p. A3). In 1938, the district filed an application with the State of California to appropriate water of the Colorado River in the quantities set forth in the Seven-Party Water Agreement; the application was filed to supplement Palo Verde's then existing rights and without waiving such rights or claims thereto.⁹ Thereafter a permit was issued.¹⁰

Diversion dam

In 1955, a new diversion dam contract was signed between the United States and the district,¹ and the structure was built. This new diversion dam is of sufficient capacity to divert water for the irrigation of the 120,500 acres in the service area of the Palo Verde Irrigation District.²

⁶*E.g.*, Calif. Exs. 4041, 4042, 4043, 4044 (Tr. 20,917), which are illustrative patents and proof files for entries made in the district.

⁷Calif. Ex. 4055 (Tr. 20,929).

⁸Ariz. Ex. 33 (Tr. 249).

⁹Calif. Ex. 346 (Tr. 8,606), at 7.

¹⁰*Id.* at 13-16.

¹Calif. Ex. 361 (Tr. 8,749).

²*Ibid.*; Tr. 8,707 (Tabor).

Investment

From 1908 to 1955, the estimated overall cost of construction of project works was in excess of \$31,000,000.³

Water requirements

For its full development permitted under the Seven-Party Agreement, Palo Verde Irrigation District would reasonably require beneficial consumptive use of approximately 420,000 acre-feet per annum of Colorado River waters for irrigation, domestic, and incidental uses on a net irrigable area of 105,000 acres in the State of California.⁴ Maximum historic consumptive use in evidence

³Calif. Exs. 361 (Tr. 8,749) and 365 (Tr. 8,774); Tr. 8,773 (Tabor).

⁴The quantity of 420,000 acre-feet per annum is calculated as follows: The Seven-Party Agreement (Ariz. Ex. 27, Tr. 242) accords Palo Verde Irrigation District a first priority for 104,500 acres (gross) in Palo Verde Valley, equivalent to a net irrigable area of 89,000 acres. Tr. 8,772 (Tabor). The reasonable consumptive use rate of 4.0 acre-feet per net irrigated acre is calculated as the average annual rate for the last five years of record, 1951-1955, obtained from Calif. Ex. 356 (Tr. 8,729) by dividing the total consumptive use (including incidental uses) by the net cultivated acreage. The first priority would thus require 356,000 acre-feet. The Seven-Party Agreement also accords Palo Verde Irrigation District a share in the third and sixth priorities for 16,000 acres (net) on the Palo Verde Mesa on a parity with Imperial Irrigation District and Coachella Valley County Water District. At the same consumptive use rate of 4.0 acre-feet per net irrigated acre, this priority would require 64,000 acre-feet.

was 296,000 acre-feet for approximately 74,000 acres in 1957.⁵

3. The All-American Canal Project

Districts served

The All-American Canal diverts at Imperial Dam, 303 miles below Hoover Dam and 22 miles above the upper Mexican boundary.¹ It transports water into the Imperial Valley for the Imperial Irrigation District and into Coachella Valley for the Coachella Valley County Water District.² Water is delivered en route to the Reservation Division of the Yuma Reclamation Project in California, the Valley Division of the Yuma Reclamation Project in Arizona, and to Mexico.³

The fertile lands within the Salton basin and the Reservation Division are completely dependent upon irrigation, the area being one of the hottest, most arid regions in the United States.⁴ Supplied with water, however, the valley lands produce large quantities of varied crops on

⁵Total beneficial consumptive use during the year 1955 of 284,320 acre-feet as shown on Calif. Ex. 356, note 4 *supra*, divided by the net cultivated acreage during that year of 70,338 acres (*ibid.*) results in a rate of approximately 4.0 acre-feet. The maximum acreage irrigated was 74,000 acres. Tr. 8,772 (Tabor). This acreage is multiplied by the calculated rate of 4.0 because 1955 is the most recent year for which evidence of beneficial consumptive use within Palo Verde Irrigation District was presented.

¹Ariz. Ex. 1000 (Tr. 211), p. 22; Calif. Ex. 213 (Tr. 7,788).

²Calif. Ex. 214 (Tr. 7,792). For a more detailed description of these projects and their development, see Calif. Findings and Conclusions, vol. 3.

³See Ariz. Ex. 1000, note 1 *supra*; Tr. 8,817-18 (Steenbergen); Calif. Ex. 50 (Tr. 6,898); Ariz. Ex. 109 (Tr. 409); Tr. 7,852 (Dowd); Calif. Ex. 233 (Tr. 7,848).

⁴Tr. 6,472, 6,475 (Dowd); Calif. Ex. 49 (Tr. 7,259); Calif. Ex. 247 (Tr. 8,009-10).

a year around basis,⁵ and are among the most productive agricultural lands in the United States, in terms of value of production per acre.⁶ Imperial Valley is the nation's principal source of a number of winter vegetables,⁷ and Coachella Valley is the nation's principal producer of several high value specialty crops.⁸

Historical background

The bringing of water from the Colorado River to irrigate the valley lands was first proposed in the 1850's,⁹ and the approval of such a project was given by an act passed by the California Legislature in 1859.¹ Development of Imperial Valley commenced with surveys and plans started in 1892 by the Colorado River Irrigation Company to divert water from the Colorado River at a point which was later the site of Laguna Dam.² It followed in general the present route of the All-American Canal except for a portion entering Mexico in order to skirt sand dunes.³ Congress in 1893 granted a right of way to the company for the canal across lands adjacent to the river in the Yuma Indian Reservation on condition that the company serve lands within the reservation.⁴

The canal route actually chosen headed on the river at Hanlon, a short distance above the international boundary in California, below the confluence of the Gila River and below the point of any diversion for the Yuma

⁵Tr. 632 (Akin); Calif. Ex. 266 (Tr. 8,086-87).

⁶Calif. Ex. 265 (Tr. 8,086-87), Calif. Ex. 249 (Tr. 8,019).

⁷Calif. Ex. 250 (Tr. 8,019-20). See note 5 *supra*.

⁸Tr. 8,473-78 (Weeks); Calif. Ex. 317 (Tr. 8,475-76).

⁹Tr. 6,508-09 (Dowd).

¹Calif. Ex. 51 (Tr. 7,096).

²Calif. Ex. 58 (Tr. 6,585), p. 13; Tr. 6,896 (Dowd).

³Tr. 6,900, 6,919 (Dowd).

⁴Calif. Ex. 60 (Tr. 6,598, 7,107).

Indian Reservation.⁵ The canal as constructed (Alamo Canal) traversed Mexican territory for some 55 miles and then reentered the United States, utilizing for much of the distance an old overflow channel of the Colorado River (the Alamo).⁶ This canal and its extensions continued in service until 1942.⁷

Appropriations

Formal appropriations of water under the laws of California for irrigation and power development, each of which was in the amount of 10,000 cubic feet per second of the flow of the Colorado River, were made by the predecessors of Imperial Irrigation District in the period 1893-1899 and succeeding years.⁸ These appropriations were subsequently supplemented by permits issued by the State of California to the Imperial and Coachella districts.⁹ The area described in these appropriations is that now within the service area of the All-American Canal.

Desert Land Act Patents in Imperial

Within the Imperial Unit of Imperial Irrigation District¹ 2,467 patents have been issued for lands entered and patented under the Desert Land Act.² These pat-

⁵Tr. 6,915-18 (Dowd).

⁶Tr. 6,988-89 (Dowd); Calif. Ex. 121 (Tr. 7,004); Ariz. Ex. 45 (Tr. 254); Calif. Ex. 185 (Tr. 7,647).

⁷Tr. 6,915, 6,918 (Dowd).

⁸Calif. Ex. 66A (Tr. 7,877).

⁹Calif. Ex. 106 (Tr. 7,175).

¹Described in Calif. Ex. 4092 (Tr. 22,223) as shown on map, Calif. Ex. 212 (Tr. 7,783).

²Tr. 22,249 (Keil). Desert Land Act § 1, 19 Stat. 377 (1877), as amended, 43 U.S.C. § 321 (1958) (text in Calif. Ex. 4000 for iden. (Tr. 20,857) at I-2).

ents were issued on the basis of an express determination as required by the Desert Land Act,³ of a valid appropriative right in Colorado River system water acquired pursuant to state law.⁴ Imperial Irrigation District, as well as its predecessors, has been expressly approved by the General Land Office as the source of water supply for desert land entries.⁵ The published decisions of the Department of the Interior have approved desert land entries within the boundaries of the district.⁶

. Diversions for Imperial Valley

Irrigation commenced in Imperial Valley in June 1901,⁷ and has been maintained continuously since that date.⁸ The original wooden headgate was replaced in 1906 by a permanent headgate, Hanlon Heading, with a capacity of 10,000 cubic feet per second.⁹

The Corps of Engineers informed the California Development Company predecessor of Imperial Irrigation District, in 1903 that the War Department would not interfere with its operations,¹ and beginning in 1910 is-

³See *supra* p. A5 note 5.

⁴Calif. Exs. 4011 and 4012 (Tr. 20,884), 4013 and 4014 (Tr. 20,888), 4015 and 4016 (Tr. 20,888), and 4017 and 4018 (Tr. 20,889), which are illustrative patents and proof files for entries made in the district.

⁵Calif. Ex. 4022 (Tr. 20,895).

⁶Herbert C. Oakley, 34 L.D. 383 (1906); Theodore A. Iasigi, 39 L.D. 285 (1910); Virgil Patterson, 40 L.D. 264 (1911); Margaret T. White, 42 L.D. 569 (1913); Hart v. Cox, 42 L.D. 592 (1913), *rev'd on other grounds*, Cox v. Hart, 260 U.S. 427 (1922); Christopher C. Gingery, 45 L.D. 50 (1916); Margaret S. Whitman (on rehearing), 45 L.D. 599 (1917); Charles Edmund Bemis, 48 L.D. 605 (1922); Hazel, Assignec of Patterson, 53 I.D. 644 (1932); George B. Willoughby, 60 I.D. 363 (1949); Bill Fults, 61 I.D. 437 (1954).

⁷Tr. 7,312-15 (Dowd).

⁸Tr. 6,918, 7,202 (Dowd).

⁹Tr. 7,200-02, 7,229 (Dowd).

¹Tr. 7,366-67 (Mr. Horton); Calif. Ex. 143 (Tr. 7,381).

sued permits under section 10 of the Rivers and Harbors Act of 1899^{1a} authorizing the construction of temporary weirs across the Colorado River for the diversion of waters into the valley.²

During this same period, there were several federal investigations of the use of Colorado River water to irrigate this area. From 1901-1903, a joint investigation and report was made by the Department of State, the Attorney General of the United States, the Department of the Interior, the International Boundary Commission, and the Army Engineers of the War Department.³ It was concluded that diversions for Imperial Valley did not interfere with navigation on the river,⁴ and the consulting engineer for the United States Geological Survey, Department of the Interior, reported that it would be a "public calamity" to interfere with this development whereby "1,000,000 acres or more of land may be redeemed by this river by irrigation."⁵ The United

^{1a}30 Stat. 1121, 33 U.S.C. § 403 (1958).

²Calif. Ex. 157 (Tr. 7,476).

³Calif. Ex. 141 (Tr. 7,364).

⁴*Id.* at 72-73. After reviewing the physical conditions on the river, the report concludes in part (p. 73): "It seems to me a matter of great doubt, in view of these facts, whether under such circumstances, a court could be induced to restrain this company in its operations, unless it was in the interest of some governmental navigation, which might require extraordinary means to an unusual end or unless some serious effort should be made in navigation by parties able and earnest and having real traffic to be handled. . . .

" The Imperial Company has, in part, accomplished, and is expected ultimately to complete, the reclamation of several hundred thousand acres of land, as before stated. It will therefore become a question of policy with the Government whether it should strive to withhold the water altogether or acquiesce by inaction in this company's operations so long as the same are reasonable and not practically injurious to the use of the river for general purposes or inimical to Federal Control."

⁵*Id.* at 41, 56-57, 58.

States Reclamation Service had also conducted investigations, summarized in its 1904-1905 report.⁶

Congress also acted to protect the valley. In 1907, President Roosevelt sent a message to Congress on the subject,⁷ as did President Taft in 1910⁸ and 1912.⁹ Funds were appropriated in 1910 to aid in the work to control the river.¹⁰

Diversions for Reservation Division

In 1904, Congress authorized the Secretary of the Interior to reclaim lands within the Yuma Indian Reservation "in like manner as though the same were a part of the public domain."¹¹ In 1905, acting under the Reclamation Act, the federal government made an appropriation of Colorado River waters pursuant to California law for the project and began construction of Laguna

⁶Calif. Ex. 140 (Tr. 7,330).

⁷Calif. Ex. 147 (Tr. 7,408).

⁸Calif. Ex. 150 (Tr. 7,428).

⁹Calif. Ex. 152 (Tr. 7,439).

¹⁰Calif. Ex. 151 (Tr. 7,432). See Tr. 7,003-04 (Dowd). See also Tr. 7,007 (Dowd).

¹¹U.S. Ex. 1103 for iden. (§ 25 of the Act of April 21, 1904, 33 Stat. 224, Tr. 13,738). Ten years earlier, Congress had ratified an agreement between the United States and the Yuma Indians whereby the Indians relinquished to the United States all their rights, title, claim, and interest in the original Yuma Indian Reservation, created by an executive order of January 8, 1884 (U.S. Ex. 1101, Tr. 13,737), in return for the right of each of the Indians to select five-acre allotments. With respect to lands not so allotted, the Secretary of the Interior was directed to sell at public auction those which were irrigable, while those lands not susceptible of irrigation were to revert to the public domain. (U.S. Ex. 1102 for iden., § 17 of the Act of Aug. 15, 1894, 28 Stat. 332, Tr. 13,737.) The 1904 legislation reserved and allotted five acres of irrigable land for each Indian belonging to the reservation, the remaining irrigable lands directed to be disposed of to settlers under the provisions of the Reclamation Act.

Dam as a diversion structure.² Water was delivered to the Reservation Division from Laguna Dam starting in 1910 and continuously thereafter until completion of Imperial Dam and the All-American Canal.³

The 1905 flood

In 1905, river floods broke into the Alamo Canal in Mexico and the entire flow of the Colorado River for a period of approximately two years ran from Lower California into Imperial Valley, threatening the whole valley with destruction, inundating a substantial part of the reclaimed lands, filling the lowest portion of Salton Sink, and creating what is now known as the Salton Sea.⁴ The break was successfully repaired in 1907 by a series of man-made dikes and levees.⁵ In 1910, Congress appropriated \$1,000,000 for the construction of levees to protect the valley.⁶

²On May 10, 1904, the Secretary of the Interior had authorized the Reservation Division as part of the Yuma Project and the construction of Laguna Dam. Ariz. Ex. 164 (Tr. 2,237). On July 8, 1905, J. B. Lippincott, acting for the United States under the provisions of the Reclamation Act of June 17, 1902, posted a notice of appropriation of 6,000 cubic feet per second of the unappropriated waters of the Colorado River at the California side of the proposed Laguna Dam site, the water to be used for irrigation, domestic, power, mechanical, and other beneficial uses in and upon the lands of the Yuma Valley adjacent to the Colorado River, below the point of diversion situated in San Diego County, California, Calif. Exs. 386 (Tr. 9,949) and 13 (Tr. 7,391). Work on Laguna Dam was begun on July 19, 1905. Tr. 8,833 (Steenbergen).

³Approximately 600 acres were irrigated in the vicinity of Bard in 1910 and about 2,500 acres cleared for cultivation. Tr. 8,834 (Steenbergen); Calif. Ex. 374 (Tr. 8,838), p. 3. The irrigated acreage on the project increased regularly, reaching a high of 12,729 acres in 1926, and thereafter fluctuating annually. Calif. Exs. 375 (Tr. 8,841) and 372 (Tr. 8,835), maps 5-8.

⁴Tr. 7,396-404 (Dowd); Calif. Ex. 148 (Tr. 7,415).

⁵Tr. 7,397 (Dowd); Ariz. Ex. 45 (Tr. 254), p. 8.

⁶Calif. Ex. 151 (Tr. 7,432).

Organization of Imperial Irrigation District

The defendant Imperial Irrigation District, a public agency of the State of California, organized in 1911,⁷ succeeded in 1916 to all of the water rights and other property above mentioned.⁸ It is now one of the world's largest irrigation districts.

All-American Canal Board

In 1918, the district entered into a contract with the Secretary of the Interior providing for surveys and plans for an all-American canal to Imperial Valley, to divert at Laguna Dam (the "Potholes"), as proposed by the 1893 plans and surveys,¹ and surveys by the United States Reclamation Service in 1904² and by the Imperial Irrigation District in 1913.³ The Secretary appointed a Board of Engineers which made a favorable report, July 22, 1919.⁴ The plans and route proposed were substantially the same as those of the present All-American Canal to Imperial and Coachella valleys,⁵ except for the All-American's higher point of diversion at Imperial Dam.

Laguna Dam contract

On October 23, 1918, the district acquired by contract with the United States the right to utilize Laguna Dam as a diversion dam, and agreed to construct an all-

⁷Tr. 7,474 (Dowd).

⁸Calif. Ex. 158 (CALIF. STATS. 1915, ch. 172, authorizing Imperial Irrigation District to acquire irrigation system of California Development Co., Tr. 7,483); Tr. 7,485 (Dowd).

¹Calif. Ex. 184 (Tr. 7,641).

²Calif. Ex. 140 (Tr. 7,330).

³Calif. Ex. 155 (Tr. 7,460).

⁴See Calif. Ex. 185 (Tr. 7,647).

⁵Tr. 7,641-43 (Dowd).

American canal from that point into Imperial Valley.⁶ For the right to use the Laguna Dam, this district agreed to pay, and has paid the United States—including a small portion later paid by Coachella Valley County Water District and San Diego—the sum of \$1,600,000.⁷

Kinkaid Act and "Fall-Davis Report"

In 1920, Congress enacted the "Kinkaid Act" (Act of May 18, 1920, 41 Stat. 600), providing for an investigation by the Secretary of the Interior of lower Colorado River problems.⁸ The Secretary submitted a report, "Problems of Imperial Valley and Vicinity," known as the "Fall-Davis Report," to Congress in February 1922.⁹ This report recommended that the United States construct a high storage dam, at or near Boulder Canyon on the lower Colorado River, and an all-American canal from Laguna Dam to the Imperial Valley.¹⁰

Works in existence at date of Boulder Canyon Project Act

As of June 25, 1929 (prior to construction of the All-American Canal), diversion works and a main canal had been constructed with a capacity adequate for the irrigation of 745,000 net irrigable acres of land in Imperial Valley.¹ As of 1932 there were 600,000 acres under canal.² The long term natural flow of the Colorado River above the mouth of the Gila River was sufficient to reasonably satisfy the district's diversion requirements

⁶See note 1 *supra*.

⁷See note 1 *supra*, at 5; Tr. 7,641 (Dowd).

⁸Sp. M. Ex. 4 for iden. (Tr. 255), p. A7.

⁹See Ariz. Ex. 45 (Tr. 254), S. Doc. No. 142, 67th Cong., 2d Sess. (1922).

¹⁰*Id.* at 10, 21.

¹Calif. Ex. 285 (Tr. 8,220); Tr. 8,219-20 (Dowd); see Ariz. Ex. 34 (Tr. 249), p. 83.

²Tr. 7,564 (Dowd).

to the extent of 4,000,000 acre-feet per annum without regulation by a storage dam.³ Constructed canals and laterals in the Reservation Division as of 1929 were capable of supporting 15,700 gross acres.⁴

Imperial repayment contract: 1932 and 1952

On December 1, 1932, Imperial Irrigation District and the United States entered into a contract,⁵ under provisions of the Boulder Canyon Project Act, for the construction by the Bureau of Reclamation of the All-American Canal, including a new diversion dam, Imperial Dam, located a few miles upstream from Laguna Dam, providing operation and maintenance of these works by the district, and repayment of the cost thereof to the United States; and for delivery of water to the district from Imperial Dam. The contract also provides that Imperial Irrigation District include within its boundaries certain designated lands in the mesa areas of Imperial Valley so that Government and private lands

³Calif. Ex. 291 (Tr. 8,263).

⁴Tr. 8,838-39 (Steenbergen). Construction of Laguna Dam, the original diversion facility for the Reservation Division, was begun on July 19, 1905, and was completed March 20, 1909. The work on the Yuma Main Canal from Laguna Dam was initiated in 1909 and was completed in 1912. Tr. 2,257-58 (Steenbergen); Calif. Ex. 374 (Tr. 8,838), pp. 16-22. Work was commenced on the division's distribution system in the fall of 1909, and by 1910 it was completed to a point known as Indian Heading, in the vicinity of Bard. Tr. 8,833-34 (Steenbergen). Construction continued regularly on the entire distribution system until the end of 1915, when it was substantially complete. Tr. 8,835-37 (Steenbergen); Calif. Exs. 372 (Tr. 8,835), maps 1-4; and 374 (Tr. 8,838), pp. 12-24, 27, 32, 37-38.

By 1929, there were approximately 84 miles of canals and laterals on the division, 13½ miles of drains, and 17 miles of levees. Tr. 8,838-39 (Steenbergen). The present distribution system is substantially the same as that existing in 1929, except that some of the canals and levees have been relocated and about 10 additional miles of drains have been constructed. Tr. 8,839-40 (Steenbergen).

⁵See Ariz. Ex. 34, note 1 *supra*.

there located would be served by the canal as contemplated by the district's appropriative rights.⁶ Capacity to serve these lands was built into the canal and the district obligated to pay the cost thereof.⁷ On March 4, 1952, the district entered into a contract supplementing that of December 1, 1932.⁸

Coachella and San Diego repayment contracts

Defendants City of San Diego and Coachella Valley County Water District (organized as a public agency of the State of California in 1918) entered into contracts in 1933⁹ and 1934,¹ respectively, with the United States for capacity in, and repayment based on capacities of, a proportionate part of the cost of the canal and dam and for delivery of water at Imperial Dam.

Construction of the All-American Canal

Construction of the All-American Canal commenced in 1934, and construction of Imperial Dam began in 1936. Water was first delivered through the All-American Canal to defendant Imperial Irrigation District, October 1940.² All of the district's water supply has been received through the All-American Canal since February 14, 1942.³ Up to that time, headworks of Imperial Irri-

⁶*Id.* at 83, 84.

⁷*Id.* at 67-68.

⁸Ariz. Ex. 37 (Tr. 250).

⁹See Ariz. Ex. 40 (Tr. 252).

¹See Ariz. Ex. 36 (Tr. 250).

²Tr. 7,776 (Dowd); Sp. M. Ex. 4 for iden. (Tr. 255), p. 124.

³Tr. 7,783-84 (Dowd).

gation District were located *below* the confluence of the Gila River with the Colorado, and Imperial diverted Gila River water for use in California when it was available.⁴ Water was first delivered through the All-American Canal to Coachella Valley County Water District in 1947.⁵ San Diego has never received service therefrom, but receives its water through the Colorado River Aqueduct.¹

Areas

The areas which could be irrigated from the All-American Canal are greatly in excess of the areas for which water will be available under the Seven-Party Agreement.²

Cost

The cost of the All-American Canal, including Imperial Dam, for which the defendants Imperial Irrigation District and Coachella Valley County Water District are obligated to the United States, under repayment contracts, is \$38,500,000.³ This is borne by them, in general, in proportion to the capacities of the sections of the works serving them.⁴ In addition, the defendant Coachella Valley County Water District is obligated to the United States in the additional amount of not to exceed \$13,500,000, the cost of its distribution system and other

⁴Rep. 54-55; Calif. Exs. 121 (Tr. 7,004) and 119 (Tr. 6,980). See *supra* p. 97 note 1.

⁵Tr. 7,788-89 (Dowd).

¹Tr. 9,700-04 (Beermann).

²See *infra* pp. A23-24.

³See Ariz. Ex. 34 (Tr. 249), p. 68.

⁴See Ariz. Ex. 36 (Tr. 250), pp. 166-68.

works.⁵ San Diego's share of the cost is about \$500,000.⁶ Capacity for the Yuma Project is charged to the Imperial and Coachella districts, per the terms of the 1932 contract.

Since 1934, Congress has repeatedly appropriated money for the construction of Imperial Dam, the All-American Canal, and the distribution system.⁷

Total investments

The total investment of Imperial Irrigation District, and its municipalities, in works dependent upon the waters of the Colorado River system (including that district's obligations with respect to the All-American Canal) is not less than \$62,000,000.⁸ These works include more than 1,800 miles of main canals and laterals,⁹ nearly 1,400 miles of drainage canals in Imperial Valley,¹ some 130 miles of main canals, and 75 miles of protective river levees in Mexico. In addition, the district has invested \$50,000,000 in its power system.² The investment of Coachella Valley County Water District incurred in firm contract obligations, totals approximately \$27,000,000.³ The total investment of the United States, the district, its predecessors, and landowners, in all its

⁵Calif. Ex. 311 (Tr. 8,419).

⁶Tr. 9,702 (Beermann).

⁷Over the period 1934-1956, those appropriations totaled \$67,815,276. See BUREAU OF RECLAMATION, U.S. DEPT OF THE INTERIOR, APPROPRIATION ACTS AND ALLOTMENTS 210, 242-44 (1957).

⁸Tr. 7,838, 7,850 (Dowd).

⁹Tr. 8,035 (Dowd).

¹Tr. 7,915 (Dowd).

²Tr. 7,034-35, 7,838, 8,034 (Dowd).

³Tr. 8,480 (Weeks).

works, is not less than \$80,000,000. As of 1956, both Indian and non-Indian water users⁴ on the Reservation Division had paid to the Bureau of Reclamation an accumulated total of \$920,000, leaving only \$62,000 remaining to be paid on the original repayment obligation to the United States.⁵

Value of agricultural production

The value of the agricultural production of the lands within Imperial Irrigation District amounted to \$136,000,000 in 1952, and to about \$29,000,000 within the

⁴The Bard Irrigation District represents the non-Indian lands in the division. The district has no contract with the Secretary, has no legal powers over project operations, and acts solely as an advisory group to the Bureau of Reclamation, although a contract has been proposed between the Secretary of the Interior and the district to transfer the operation and maintenance of all works in the division to the district. Tr. 8,859-60 (Steenbergen); Calif. Ex. 385 for iden. (Tr. 8,860). The Bureau of Indian Affairs supervises Indian lands in the division. Both Indian and non-Indian lands receive equal treatment in the delivery of water. Tr. 8,819-20A (Steenbergen).

⁵Tr. 8,858-59 (Steenbergen); Calif. Exs. 383 for iden. (Tr. 8,858) and 384 for iden. (Tr. 8,858).

The non-Indian section of the Reservation Division was opened to settlement in January 1910, by a public notice, issued pursuant to the Reclamation Act of 1902, which authorized the acceptance of homestead entries and water right applications. Tr. 8,850 (Steenbergen); Calif. Ex. 377 (Tr. 8,847). The Bureau of Reclamation has approved numerous "water right applications" for lands in the non-Indian section of the project, which in effect establish a water delivery agreement between the individual water users and the United States (Tr. 8,851-54 (Steenbergen)); Calif. Exs. 378-380 (Tr. 8,852), although there is no common water delivery agreement between the water users and the Secretary of the Interior, as is the case with other California water user organizations. When the obligation to repay the apportioned construction cost of the federal diversion and distribution facilities has been satisfied, the water user receives a certificate of full payment and release of lien. Calif. Ex. 382 (Tr. 8,856). Repayment obligations for the Indian lands are handled by the Bureau of Indian Affairs. Tr. 8,820 (Steenbergen).

Coachella Valley County Water District.⁶ The total economy of both areas, as well as that within the Reservation Division, is dependent upon the water supply from the Colorado River system through the All-American Canal. All of the cities and towns in Imperial Valley are dependent upon the All-American Canal for their water supply.⁷

Water requirements

a. Yuma Project, Reservation Division, California

For its full development, the Yuma Project, Reservation Division, California, reasonably requires the beneficial consumptive use of approximately 70,500 acre-feet per annum of waters of the Colorado River for irrigation, domestic, and incidental uses on a net irrigable area of 20,100 acres in the State of California.¹ Maximum

⁶See Calif. Exs. 265 (Tr. 8,086-87) and 317 (Tr. 8,475-76), table 5.

⁷Tr. 6,476 (Dowd).

¹The quantity of 70,500 acre-feet is calculated as follows: The gross acreage is 28,000 (Tr. 8,824 (Steenbergen)), reduced by the Seven-Party Agreement (Ariz. Ex. 27 (Tr. 242)) to 25,000. Of this, the irrigable area constitutes 20,110 acres (rounded to 20,100), consisting of 14,610 acres under distribution system in the Reservation Division (Tr. 8,824 (Steenbergen)), plus 5,500 acres in the west end of the reservation and in the so-called "island area" (Tr. 8,826 (Steenbergen)), jurisdiction over which is in dispute between Arizona and California, which can be served by the extension of the present distribution system. Tr. 8,825-27 (Steenbergen). The reasonable consumptive use rate of 3.5 acre-feet per net irrigated acre is computed as the average annual rate for the most recent years of record, 1954-1956, obtained from Calif. Ex. 376 (table: Reservation Division, computed annual consumptive use, Tr. 8,842) by dividing the total consumptive use (including incidental uses) by the net cultivated acreage. The result, 3.53, is rounded to 3.5. This rate is multiplied by the net irrigable area of 20,100 acres to obtain the reasonable beneficial consumptive use requirement for the project of 70,500 acre-feet.

historic beneficial consumptive use in evidence was 44,500 acre-feet in 1926 on approximately 12,700 acres.²

b. Imperial Irrigation District and Coachella Valley County Water District, California: Combined requirements

Imperial Irrigation District and Coachella Valley County Water District are cumulatively restricted by the first six priorities of the Seven-Party Agreement, which makes no allocation between them, to the beneficial consumptive use of 4,150,000 acre-feet per annum, minus the senior allocations therein made to Palo Verde Irrigation District and the Reservation Division of the Yuma Project (which are stated in that agreement in terms of acreage, not acre-feet). The effect of these deductions converted to acre-feet of water (*supra* pp. A7 and A22) is to leave a residue of 3,659,500 acre-feet

²Rate of beneficial consumptive use for 1929 (3.5 acre-feet) was taken from Calif. Ex. 376 (Tr. 8,842) by dividing total consumptive use by irrigated acreage, and this rate was applied to the acreage irrigated in 1926 (12,729 acres), the year of maximum acreage as shown in Calif. Ex. 375 (Tr. 8,841). No rate is in evidence for the year 1926, and 1929 is the nearest year to 1926 for which there is evidence of a rate.

per annum³ for beneficial consumptive use by the Imperial Irrigation District and Coachella Valley County Water District for its full development permitted by the Seven-Party Agreement (300,000 acre-feet is junior under the Seven-Party Agreement to the priorities of The Metropolitan Water District of Southern California). The net irrigable area capable of irrigation by 3,659,500 acre-feet of beneficial consumptive use is 661,000 acres.⁴ This area is less than the sum of the

³The quantity of 3,659,500 acre-feet per annum is calculated as follows, pursuant to the Seven-Party Agreement (Ariz. Ex. 27 (Tr. 242)):

1. Sum of first three priorities	3,850,000
Less:	
First priority, Palo Verde	
Irrigation District: $89,000 \times 4.0$	
(Calif. Finding 4C:102)	356,000
Second priority, Reservation	
Division: $20,100 \times 3.5$	
(Calif. Finding 4C:104)	70,500
Third priority, that portion	
for 16,000 acres on Palo	
Verde Mesa: $16,000 \times 4.0$	
(Calif. Finding 4C:102)	64,000
Total deduction	490,500
Net, under third priority for	
Imperial and Coachella	3,359,500
2. Sixth priority, Imperial and Coa-	
chella and the above 16,000 acres	
on Palo Verde Mesa	300,000
	<u>3,659,500</u>

Because the quantity of 3,659,500 acre-feet is a remainder after deducting the above requirements of Palo Verde Irrigation District and the Reservation Division of the Yuma Project, any adjustment in their allocations in the first and second priorities, up or down, inversely affects the quantity available for Imperial and Coachella. Palo Verde's portion of the third priority is not to be deducted in full, because the 16,000 acres there referred to is on equal priority with the acreage to be served in Imperial and Coachella; for simplification, it is tabulated here as a deduction from the supply available for Imperial and Coachella.

⁴See Calif. Finding 4C:106, p. IV-21, for calculation of net acreage.

net irrigable area in Imperial Irrigation District, 745,000 acres,⁵ and Coachella Valley County Water District, 137,900 acres,⁶ a total of 882,900 acres. The reduction to 661,000 acres reflects the operation of the first six priorities of the Seven-Party Agreement.

Maximum historic acreage, through 1955, irrigated by Imperial Irrigation District was 474,600 acres in 1955,⁷ and by Coachella Valley County Water District was 49,400 acres in 1955.⁸ Beneficial consumptive use of Colorado River water for those acreages, including domestic and other incidental uses, was 3,662,000 acre-feet in that year.⁹

4. The Metropolitan Water District of Southern California (Colorado River Aqueduct Project)

Description of the project

The Colorado River Aqueduct Project, financed and constructed by The Metropolitan Water District of Southern California (herein referred to as "MWD"), diverts from the main stream of the Colorado River above Parker Dam, 155 miles below Hoover Dam and 175 miles above the Mexican border. The main aqueduct transports water 242 miles westward, and there connects with a distribution system of approximately 304 miles (including the San Diego Aqueduct of approximately 71 miles), which serves the cities and other public bodies which are members of MWD.¹

⁵Calif. Ex. 285 (Tr. 8,220).

⁶Calif. Ex. 318 (Tr. 8,511), table 1.

⁷Calif. Ex. 275 (Tr. 8,210), item 96.

⁸Calif. Ex. 318, note 6 *supra*, table 2.

⁹3,662,000 is the sum of 3,642,000 shown in Calif. Ex. 275, note 7 *supra*, item 70, plus 20,000 shown in Calif. Ex. 279 (Tr. 8,186).

¹Calif. Ex. 455 (Tr. 9,395), p. 2; Calif. Ex. 457 (Tr. 9,395), p. 17; Ariz. Ex. 1000 (Tr. 211), pp. 18, 20.

The major works of the main aqueduct, large scale construction of which began in 1931 and was completed in 1941, consist of transmission lines, pumping plants, tunnels, canals, covered conduits, inverted syphons, reservoirs, and related works with a designed capacity of 1,605 c.f.s. (cubic feet per second) and an actual capacity of 1,800 c.f.s. The main aqueduct is 242 miles long, including 92 miles of 16-foot tunnels, and 5 pumping plants capable of raising the water 1,617 feet over mountains intervening between the Colorado River and the coastal plain of southern California.²

The major works of the distribution system consist of 232 miles of pipeline, tunnels, reservoirs, and related works serving parts of MWD in Los Angeles, Orange, Riverside, and San Bernardino counties, and 71.1 miles of the San Diego Aqueduct (a branch of the Colorado River Aqueduct) serving the parts of MWD in San Diego County.³ Construction of 150 miles of that part of the system serving Los Angeles and vicinity was completed in 1941, and the balance in 1952.⁴ The construction authorized in 1952 to bring the aqueduct system to full capacity was completed in 1960.⁵

The San Diego Aqueduct consists of about 71 miles of conduits, tunnels, and incidental works. Construction of the first barrel of this aqueduct was completed in 1947 and the second barrel in 1954. A third barrel was under construction at the time of trial⁶ and was completed in 1960.

²Calif. Ex. 454 (Tr. 9,395); Tr. 9,534-57 (Elder); see Calif. Ex. 455, note 1 *supra*, pp. 2-7.

³Calif. Ex. 447 (Tr. 9,395); Tr. 9,495-500 (Elder); see Calif. Ex. 457, note 1 *supra*, pp. 2-5, 17-19.

⁴See Calif. Ex. 457, note 1 *supra*, pp. 3, 17-19.

⁵*Id.* at 24.

⁶*Id.* at 17-26; Calif. Ex. 523 (Tr. 9,395).

Investment

As of November 1956, the total investment by MWD in the Colorado River Aqueduct, including the northern portion of the San Diego Aqueduct and incidental works, was \$323,126,531.⁷ The completed project required a total investment of about \$400,000,000.⁸

The aqueduct system is designed to meet the needs of the expanding population and industry of the coastal plain of southern California at the present rates of growth until about 1970.⁹ Prudent practice in the planning and construction of large municipal water supply systems in areas with a history of rapid growth of population and industry requires that the capacity of such works and the firm water supply be sufficient to care for the needs of the population projected so as to avoid disastrous water shortages.¹

Service area of MWD, population, and assessed valuation

MWD was organized in December 1928,² under the authority of the Metropolitan Water District Act.³ At the time MWD commenced construction of the Colorado River Aqueduct (1931), its corporate area consisted of the area of 13 southern California cities, including 608 square miles;⁴ a population of 2,031,000;⁵ and as-

⁷Calif. Ex. 481 (Tr. 9,395); Tr. 9,662-66 (McKinlay).

⁸See pp. 269-70 & note 1 *supra*.

⁹Tr. 9,590-94 (Elder); Tr. 9,833-34 (Morris); Calif. Ex. 527 (Tr. 9,395), tables and charts 1 (Tr. 9,784-92, Dunn), 2 (Tr. 9,793-95, Dunn), and 5 (Tr. 9,805-07, Dunn).

¹Tr. 9,827-28 (Morris); Tr. 9,685-88 (Beermann).

²Tr. 9,501 (Elder).

³Calif. Ex. 445 (Tr. 9,395).

⁴Calif. Ex. 448 (Tr. 9,395); Tr. 9,500-02 (Elder); Calif. Ex. 446 (Tr. 9,395).

⁵Calif. Ex. 527 (Tr. 9,395), table 1, chart 1; Tr. 9,784-92 (Dunn).

sessed valuation of \$2,431,684,250.⁶ By 1956, the corporate area of MWD had increased through annexations to 2,900 square miles, located west of the coastal range, between Ventura County to the northwest and the Mexican border to the south.⁷ As of November 1956, MWD had a population of 6,423,000,⁸ and an assessed valuation of \$9,674,000,560.¹ By June 30, 1960, the district's population had increased to 7,329,000, assessed valuation to \$12,714,206,000, and corporate area to 3,393 square miles.²

Within the borders of MWD lie great centers of population, including the cities of Los Angeles, San Diego, Long Beach, and Pasadena, and large areas of unincorporated territory.³ This is one of the major defense areas of the United States, with military, naval, and marine establishments, aircraft and missile companies, and many other vital industries too varied and numerous to tabulate.⁴

Historical development of the Colorado River Aqueduct project

In 1923, defendant City of Los Angeles surveyed routes and began the design for such an aqueduct,⁵ and in 1924 appropriated water therefor, under the laws of California.⁶ In 1926, the City of San Diego

⁶*Id.* table 9, chart 9; Tr. 9,812-14 (Dunn).

⁷See note 4 *supra*, Calif. Ex. 447 (Tr. 9,395).

⁸See note 5 *supra*.

¹Calif. Ex. 479 (Tr. 9,395); Tr. 9,658-61 (McKinlay).

²22 MWD ANN. REP, xiii, 5 (1960).

³Calif. Exs. 446 and 447 (Tr. 9,395).

⁴Tr. 9,496 (Elder); Calif. Ex. 516 (Tr. 9,708).

⁵Calif. Ex. 411 (Tr. 9,395); Tr. 9,450-67 (Parratt).

⁶Calif. Ex. 419 (Tr. 9,395); Calif. Ex. 419-A (Tr. 9,395).

made appropriations for the same purpose⁷ and commenced the design of works.⁸ A filing was made by MWD on August 14, 1929.⁹ Permits, which in terms supplement MWD's contract rights, were issued by the State of California, dated January 6, 1950, and these permits relate back to the respective dates of applications.¹

As of June 25, 1929, defendant City of Los Angeles had expended \$1,657,822 83 in the design and preliminary construction of the Colorado River Aqueduct.² Total spent by the city has been \$2,859,678.34. Such preliminary work was later taken over and paid for by MWD.³ This plan to divert Colorado River water for use on the southern California coastal basin was a major purpose of the Boulder Canyon Project.⁴

Boulder Canyon Project contracts

On September 28, 1931, MWD entered into a contract⁵ (amending an earlier contract of April 24, 1930)⁶ with the United States, providing for the delivery from

⁷Calif. Ex. 436 (Tr. 9,395); Calif. Ex. 437 (Tr. 9,395); Calif. Ex. 437-A (Tr. 9,395).

⁸Tr. 9,699-700 (Beermann).

⁹Calif. Ex. 426 (Tr. 9,395).

¹Calif. Exs. 430, 435, 439 (Tr. 9,395).

²Calif. Ex. 413 (Tr. 9,395), line 33, aggregate of columns for years "1920-21" to "1928-29" inclusive, Tr. 9,470-73 (Twohy).

³*Id.* line 33, column entitled "Reimbursement Metropolitan Water District"; Tr. 9,470-73 (Twohy).

⁴*E.g.*, H.R. REP. No. 918, 70th Cong., 1st Sess., pt. 1, at 20-21 (1928); S. REP. No. 592, 70th Cong., 1st Sess., pt. 1, at 24-25 (1928).

⁵Ariz. Ex. 39 (Tr. 252).

⁶Ariz. Ex. 38 (Tr. 252).

storage at Hoover Dam of water with the priority and quantity set out in items 4 and 5(a) of the Seven-Party Agreement (1,100,000 acre-feet per annum). (*Supra* p. A3.) On February 15, 1933, defendant City of San Diego entered into a contract with the United States, providing for the delivery from storage at Hoover Dam of water with the priority and quantity set out in item 5(b) of the Seven-Party Agreement (112,000 acre-feet per annum); in 1947, both appropriative and contractual rights of the City of San Diego were assigned to and are vested in MWD.⁷

For the purpose of pumping water into and in the Colorado River Aqueduct, as well as assuring to the United States revenues to repay the cost of the Hoover Dam and power plant, MWD also entered into a 50 year contract dated April 26, 1930,⁸ to pay for (whether taken or not) 36 per cent of the firm electrical engery output of that project. The MWD water storage and delivery contract of April 24, 1930,⁹ and the energy contract of April 26, 1930, were parts of the same transaction. The contract limits the use of this energy to pumping Colorado River water into and in the aqueduct.

Statute conveying right of way

A qualified fee in the public lands traversed by the Colorado River Aqueduct was granted to MWD by

⁷Ariz. Exs. 40 (Tr. 252), 41, and 42 (Tr. 253).

⁸Calif. Ex. 415 (Tr. 9,395), text in Sp. M. Ex. 2 for iden. (HOOVER DAM, POWER AND WATER CONTRACTS (Tr. 212)), item 31, p. 323; Calif. Ex. 416 (Tr. 9,395), text in Sp. M. Ex. 2 for iden., *supra*, item 33, p. 351.

⁹See note 6 *supra*.

the United States, pursuant to the act of Congress dated June 18, 1932.¹

Parker Dam

Parker Dam was built at the expense of MWD by the United States² under a contract dated February

¹Calif. Ex. 450 (Tr. 9,395).

In reporting on the bill authorizing the grant (Calif. Ex. 451, p. 3, Tr. 9,395), the Committee on Public Lands stated to the House of Representatives that:

"The district has entered into contracts with the Federal Government to purchase power for the purpose of pumping water and for the storage and delivery of water to be impounded in the Boulder Dam. Estimated yearly revenues to the United States from the metropolitan water district under the said contracts are as follows:

Annual obligation for 36 per cent of firm power	\$2,488,000
Annual payment for water storage	275,000
Possible revenue from secondary power	500,000
Total	<hr/> \$3,263,000

"The purchase of power by the district is relied upon as a primary source of revenue to repay the Government the expenses of the Boulder Dam project. The bill, therefore, in helping the metropolitan water district also helps the United States Government."

(The figure of \$275,000 "annual payment for water storage" is obviously arrived at by multiplying the 1,100,000 acre-feet of water, then under Metropolitan's contract, by 25¢, the agreed price.)

A letter from the Secretary of the Interior to the chairman of the committee is made a part of the report. (Calif. Ex. 451, pp. 3-4, Tr. 9,395.) The Secretary said, in part:

"For your information, the Metropolitan Water District of Southern California is the largest single contractor for Hoover Dam power. All of the electrical energy purchased must be utilized for pumping water into and in an aqueduct from the Colorado River to the coastal plain. This bill provides the necessary right of way for that aqueduct. Inasmuch as a large share of the financial burden of repaying the cost of Hoover Dam is borne by this district, I believe it to be in the interests of the United States to assist the district in the matter of its right of way."

²Calif. Ex. 477 (Tr. 9,395), p. 4; Calif. Ex. 483 (Tr. 9,395).

10, 1933,³ ratified by the Act of August 30, 1935,⁴ Parker Dam provides a point of diversion and produces electrical energy for pumping water agreed by the United States to be delivered to MWD from storage at Hoover Dam,⁵ under the water delivery contracts referred to above.⁶

Boulder Canyon Project Adjustment Act

In 1940, the Congress adopted the Boulder Canyon Project Adjustment Act,⁷ revising the rate structure for energy from Hoover Dam power plant and providing for amortization of the project by funds derived from the sale of electrical energy and from the storage and delivery of water. In the resultant regulations,⁸ revenues to be derived from Metropolitan, both for storage and delivery of water, and for electrical energy for pumping that water, were relied upon as contributing a substantial part (about one third) of the funds required to amortize the Boulder Project. Full delivery of water under the Metropolitan contract was assumed as was the use of the necessary energy for the pumping of that water.

Integrated plan

The water delivery contracts,⁹ electrical energy con-

³Calif. Ex. 459 (Tr. 9,395), text in Sp. M. Ex. 4 for iden. (HOOVER DAM DOCUMENTS, Tr. 255), p. A689.

⁴Calif. Ex. 472 (Tr. 9,395), text in Sp. M. Ex. 4 for iden., note 3 *supra*, p. A701.

⁵See Calif. Ex. 477, note 2 *supra*, pp. 2, 4, 5.

⁶See Ariz. Exs. 38 (Tr. 251) and 39 (Tr. 252).

⁷54 Stat. 774 (1940), 43 U.S.C. §§ 618-618o (1958) (text in Sp. M. Ex. 2 for iden. (Tr. 212), p. 33).

⁸General Regulations of May 20, 1941 (text in Sp. M. Ex. 2 for iden., p. 1127).

⁹*Supra* note 6.

tract,¹ and contract for the construction of Parker Dam,² all were parts of an integrated plan for the delivery, diversion, and pumping of water of the Colorado River for domestic and municipal use on the coastal plain of southern California, with the priority, and in the quantity set out in the Seven-Party Agreement.³

San Diego Aqueduct

The first barrel of the San Diego branch of the Colorado River Aqueduct was constructed by the Bureau of Reclamation for the Navy Department under an executive order dated November 29, 1944,⁴ and ratified by the Act of April 15, 1948,⁵ to meet a shortage of water in a critical defense area.⁶ This construction was completed in 1947.⁷

A second barrel of the San Diego Aqueduct was authorized by the Act of October 11, 1951.⁸ This construction was completed in 1954.⁹

Investment in San Diego Aqueduct

As of November 30, 1956, the San Diego County Water Authority, of which defendant City of San Diego is a part, had expended \$43,308,849 for the San Diego Aqueduct, together with all other costs in con-

¹See Calif. Ex. 415, *supra* p. A30 note 8.

²See Calif. Ex. 459, *supra* p. A32 note 3.

³See Calif. Ex. 203 (S. REP. No. 592, 70th Cong., 1st Sess. (1928), Tr. 7,715), pp. 24, 25.

⁴Calif. Ex. 489 for iden. (S. Doc. No. 249, 78th Cong., 2d Sess. (1944), Tr. 9,395), pp. 2-3.

⁵Calif. Ex. 500 for iden. (Tr. 9,395), text in Sp. M. Ex. 4 for iden. (Tr. 255), p. A729.

⁶See note 4 *supra*.

⁷See Calif. Ex. 457 (Tr. 9,395), p. 26.

⁸Calif. Ex. 502 (65 Stat. 404, Tr. 9,395).

⁹*Supra* note 7.

nection therewith, to utilize Colorado River water.¹ As of November 30, 1956, the Authority's unpaid obligation to the United States for these costs (less that portion assumed by MWD) was \$56,769,439.²

As of May 1, 1957, a third barrel of the San Diego Aqueduct (sometimes termed "Second San Diego Aqueduct")³ was authorized by MWD and San Diego County Water Authority. The northerly portion, 43.5 miles, was financed, constructed, and operated by MWD; the southerly portion, 61.1 miles, was financed, constructed, and operated by the Authority. This construction was completed in 1960 at a cost of \$55,000,000, of which MWD will pay \$20,000,000 and the Authority will pay \$35,000,000.⁴

Financing the project

The first development of the project to August 1, 1941, was financed by the issuance and sale of MWD bonds in the amount of \$220,000,000, authorized in 1931, a large part of which initially were sold to the Reconstruction Finance Corporation, an agency of the United States, but were resold by the Reconstruction Finance Corporation, at a profit, to private investors.⁵

Water service

The area served by the Colorado River Aqueduct Project has sustained a phenomenal industrial growth.⁶ Many important military installations and defense in-

¹Calif. Ex. 524 (Tr. 9,395); Tr. 9,773 (Royer).

²Calif. Ex. 525 (Tr. 9,395); Tr. 9,775 (Royer).

³Tr. 9,738-39, 9,746-47 (Holmgren).

⁴See Calif. Ex. 457 (Tr. 9,395), p. 19; Calif. Ex. 523 (Tr. 9,395), pp. 11-13.

⁵See Calif. Ex. 455 (Tr. 9,395), p. 2; Calif. Ex. 457, note 4 *supra*, p. 2; Tr. 9,658 (McKinlay).

⁶See Calif. Ex. 527 (Tr. 9,395), table 5, chart 5; Tr. 9,805-07 (Dunn).

dustries are located within MWD's service area.⁷

The climate of southern California is extremely arid. Local water supply is limited and variable,⁸ and the area is dependent upon a supplemental supply from the Colorado River Aqueduct.⁹

Service of water through the Colorado River Aqueduct Project commenced in June 1941, and has continued since that date.¹ By the year 1970, all water appropriated and contracted for by MWD from the Colorado River (1,212,000 acre-feet per annum) will be required for beneficial use by MWD on the coastal plain of southern California.²

Water requirements

For its full development permitted under the Seven-Party Agreement, The Metropolitan Water District of Southern California reasonably will require the beneficial consumptive use of 1,212,000 acre-feet per annum³ of water of the Colorado River for domestic, municipal, industrial, and incidental uses in southern California.⁴ Maximum historic beneficial consumptive use in evidence was 584,000 acre-feet in 1957,⁵ which has in-

⁷Calif. Ex. 516 (Tr. 9,708).

⁸Tr. 9,406-09 (Morris).

⁹Tr. 9,519-21 (Elder); Tr. 9,830-34 (Morris).

¹See Calif. Exs. 455 and 457 (Tr. 9,395); Tr. 9,535 (Elder).

²Tr. 9,829-34 (Morris).

³Calif. Ex. 478 (Tr. 9,395).

⁴Calif. Ex. 447 (Tr. 9,395).

⁵Tr. 19,968 (statement of MWD counsel), cited at Rep. 128 n.73.

creased to nearly 900,000 acre-feet in 1960.⁶

5. Miscellaneous Uses in California

In 1957, there were 4,700 acres of improved land along the Colorado River in California located outside any irrigation district or Indian reservation which were using water, but not under notices of appropriation or water delivery contracts;¹ these are riparian lands and may have riparian rights under California law. The occupants of these lands as of 1957 were effecting the beneficial consumptive use of approximately 8,000 acre-feet per annum of waters of the Colorado River system.²

There are a number of small towns in the Colorado River basin in California presently using waters of the Colorado River system. Most of them are within existing projects and are served as part of those projects. However, the city of Needles, located on the Colorado River, is not within any project and presently satisfies its requirements by ground water pumping. The city pumped 2,800 acre-feet in fiscal 1958.³

⁶During the calendar year 1960, MWD's gross diversions from Havasu Lake totaled 894,193 acre-feet. Bureau of Reclamation, U.S. Dep't of the Interior, Region 3, Boulder City, Nevada, *Water Log of the Colorado River, Grand Canyon to International Boundary—For Calendar Year 1960*, col. 4 (provisional records as of Feb. 15, 1961).

During fiscal 1960, 772,813 acre-feet were delivered at the MWD intake. 22 MWD ANN. REP. 15, table 7, col. 5 (1960). Total net deliveries amounted to 734,917 acre-feet. *Id.* at vii and 2, table 3, col. 2.

¹Tr. 11,978-79 (Rowe).

²Tr. 11,998 (Rowe).

³Tr. 22,368-69 (Beatty).

6. Recapitulation: Investments in California Projects

The investments in works by means of which the California defendants divert and use waters of the Colorado River system, as of the latest dates shown above, but excluding all expenditures by individual landowners, aggregated in excess of \$600,000,000 as set forth above.

BLANK PAGE

**Motion to Reopen the Trial for the Taking of
Evidence re Depletion of the Colorado River
at Lee Ferry by the Upper Basin
and
Statement in Support of Motion***

I.

MOTION

The California Defendants Respectfully Move that the Special Master reopen the trial in this cause for the taking of evidence, both oral and documentary, and the making of findings of fact and conclusions of law, relating to the following matters:

(1) The consumptive use of Colorado River system water in the upper Colorado River basin and the depletion of the flow of the Colorado River at Lee Ferry (a) by existing projects, and (b) by reasonably anticipated developments by about 1990.

(2) The effect of the decree proposed by the Special Master in the Draft Report on the water supply available to existing California projects by 1990, on the basis of (i) the upper basin depletion referred to above, (ii) the construction of a Central Arizona Project with a diversion requirement of at least 1,200,000 acre-feet per annum, in addition to the full requirements of existing Arizona main stream projects, and (iii) development in Nevada which will use all main stream water which may be apportioned to her under the proposed decree.

*This Motion, submitted by the California defendants to the Special Master August 31, 1961 is denied by the Master, Rep. 112 n.41.

II.

STATEMENT IN SUPPORT OF MOTION

A. Why Evidence Must Be Taken

The Draft Report proposes a decision which we say will destroy one California project which serves 7,000,000 people in southern California and will drastically curtail our two great agricultural projects. The proposed decision is based on a novel construction of the Boulder Canyon Project Act and the California Limitation Act first announced on May 5, 1960, when the Draft Report was circulated. The Special Master agrees that the decision would be subject to reexamination were he persuaded that the disaster which we see is truly in prospect, but he sees no such prospect.

The Master includes in the lower basin water supply, against which the decree is to be tested, large quantities of unused upper basin water. Availability of this water to the lower basin was not litigated, and the Master's assumptions with respect thereto were not disclosed until the California rebuttal argument on August 19, 1960. The supposed facts on which the Master relies were clearly not in issue on the pleadings and are not found in the record of this case. The Master's determination of those supposed facts is seriously in error.

These positions of the Special Master, contrary to assertions expressed or implied in the Draft Report, are revealed in the transcript of the August 1960 argument in New York City:

1. The water supply of the lower basin can be determined.

2. Determination of water supply may be useful to decision.

3. The Special Master has in fact reached a conclusion that there will be an abundant supply of water for all lower basin projects. This conclusion rests on supposed facts with respect to upper basin development which he has improperly judicially noticed and which are contrary to what the evidence would show had there been reason or opportunity to produce it. Our motion is directed toward the production of that evidence.

We shall consider these points in the order listed.

1. Water Supply Can Be Determined

In the Draft Report, the Special Master states the conviction that "it is impossible to make an estimate of future [water] supply in the Lower Basin within useful limits of accuracy." (DR 103.) The reasons for our profound disagreement with that statement are set forth in our Comments and Suggestions on the Draft Report (pp. 61-90) in connection with our motion for appointment of disinterested experts to determine supply.

The Master now (as of August 17, 1960) apparently agrees that water supply is determinable.¹

¹"THE MASTER [to Mr. Ely]: I don't want to divert you from your argument, but, after all, we have got a limited time and I might save you some by indicating where my mind is on the subject. If you can persuade me that a finding of [water]

2. Determination of Water Supply Is Useful to Decision

The statement of our reasons why water supply should be determined is contained in our Comments and Suggestions re the Draft Report, pages 68-73.

Further argument appears unnecessary in view of the Master's repeated statements during the New York City argument:

"I suppose it is true that if a particular determination would lead to a genuine disaster, I suppose we would agree that that would be a good reason for reexamining it to see whether perhaps we did fumble somewhere en route and perhaps the Court ought to so fashion its decree so that disaster should be avoided." [Tr. 22,976.]

"I naturally am very deeply concerned about any set of facts or arguments which suggest the possibility that the spigots on the Metropolitan Aqueduct will have to be turned shut, and if I believed any such thing I would have strained every legal

supply is useful to decision, then although I have indicated it's very difficult, there are lots of findings which are difficult, but, if necessary, are made within such degree of accuracy as can be established within the scope of the testimony available[.] [M]y view of the matter is and has been, subject to being persuaded that I am in error, that it is not useful to decision in this particular conference and that, whereas normally, despite that I might have made a finding, because the Court might take a different view of it, in view of the exceeding difficulty of making it, I will abstain from doing so. Now, that is the position. Therefore, save time in your argument that it is useful for decision rather than it is an ascertainable proposition." [Tr. 22,749-50.]

document to try to prevent that because I adhere to the notion that it is true that some of the authors you quoted the other day—that such projects should not be turned off because some interesting legal conception is valid and it has some property significance along the lines you argued this morning.

“I have not heretofore persuaded myself that such was the fact. Nothing I have heard suggests that such is the fact and nothing persuades me that such is likely to be the fact within the unforeseeable future, not to say foreseeable future.”
[Tr. 23,092-93.]

3. The Special Master Has Reached Erroneous Conclusions With Respect to Water Supply

The Special Master's declarations with respect to the water supply available to the Metropolitan Water District, although contradicted by declarations in the Draft Report,² were emphatic and repeated during California's rebuttal argument in New York City on August 19:

“I am morally certain that neither in my lifetime, nor in your lifetime, nor the lifetime of your children and great-grandchildren will there be an

² “[T]he evidence indicates that California is already using some of the water claimed by Arizona.” (DR 119.) California's use in the latest year of record for each project totals 4,483,885 acre-feet. (DR 115.)

The Master twice quotes (DR 30-31, 118) with apparent approval the Secretary of the Interior's report in 1948 to Con-

inadequate supply of water for the Metropolitan project.

"

"I am morally certain as certain as I am of the multiplication table, that not within the span of the ages indicated there will be any diminution either in the present uses of the Metropolitan Aqueduct or its contemplated expansion." [Tr. 23,084.]

The Special Master is demonstrably wrong.

Implicit in these declarations is a determination that there will be *more than* 5,062,000 acre-feet per annum of consumptive use available for California. California must receive more than 5,062,000 acre-feet if Metropolitan is to receive its contract quantity of 1,212,000 acre-feet per annum. Metropolitan's rights under the Secretary of the Interior's contracts are junior to 3,850,000 acre-feet of agricultural use. We say "*more than* 5,062,000 acre-feet," because of the Indian rights in California to which the Draft Report accords priority ahead of Metropolitan.³

gress that there will be water for the Central Arizona Project on Arizona's contentions, but not on California's. This report [Ariz. Ex. 71, at 150-51, also designated as Calif. Ex. 7514-F submitted as part of Calif. Offer of Proof dated August 17, 1960] permits California only 4,400,000 acre-feet per annum, less reservoir losses. This determination is based on virgin flow at Lee Ferry (1897-1943) of 16,270,000 acre-feet per annum.

³Indian rights in California seem to approximate 33,000 acre-feet per annum of "consumptive use." Calif. Comments re Draft Report, pp. 15 n.9, 16 n.10.

The water supply which must be available to justify the Master's conviction can readily be calculated. If "the spigots on the Metropolitan Aqueduct" are to run full there must be available to Arizona, California, and Nevada for division on the Master's formula a total of more than 8,824,000 acre-feet per annum, divided as follows:

Arizona	3,462,000 acre-feet ⁴
California	5,062,000 " "
Nevada	300,000 " "
Total	8,824,000 " "

The flow at Lee Ferry necessary to provide consumptive use of 8,824,000 can be easily estimated by adding (1) 1,500,000 acre-feet per annum for the Mexican Treaty delivery, and (2) the quantity of losses of various kinds, after adjustment for gains below Lee Ferry from inflow to the main stream.

Here is the calculation of the losses and gains testified to by Arizona witness Erickson and California witness Stetson in parallel columns.⁵ This testimony is uncontradicted in the record.⁶

⁴2,800,000 acre-feet plus 662,000 acre-feet of "excess or surplus," equal to Metropolitan's 662,000 acre-feet of "excess or surplus" required to supply Metropolitan's full contract quantity of 1,212,000 acre-feet.

⁵Losses would in fact be substantially higher with the larger flows required to make 8,462,000 acre-feet of consumptive use available from the "mainstream." Erickson's and Stetson's loss figures apply to flows which will produce around 6,000,000 acre-feet of consumptive use from the "mainstream."

⁶Citations to the record are found in Calif. Finding 5E:102 (11), p. V-29.

	Units—1,000 acre-feet per annum	
	<u>Erickson</u>	<u>Stetson</u>
Mexican delivery	1,500	1,500
Losses:		
Evaporation from Lake Mead	700	650
Uncontrollable spills at Hoover Dam	500	300
Evaporation from reservoirs, Hoover Dam to Mexican boundary	300	300
Channel losses, net of channel salvage, Hoover Dam to Mexican boundary	300	600
Regulatory waste (excess arrivals in limitrophe section)	<u>75</u>	<u>200</u>
Total losses plus Mexican delivery	3,375	3,550
Gains:		
Net gain, Lee Ferry to Lake Mead	950	950
Bill Williams and Miscellaneous inflow below Hoover Dam	<u>75</u>	<u>75</u>
Total gains	<u>1,025</u>	<u>1,025</u>
Flow at Lee Ferry not available for beneficial consumptive use in lower basin	2,350	2,525

The foregoing figures represent the water which passes Lee Ferry which cannot be beneficially consumed in the lower basin. This figure determines the flow which must pass Lee Ferry to meet the Master's expectation of an abundant supply for Metropolitan Water District, necessitating under his formula 8,824,000 acre-feet from the main stream for the three lower division states:

	Units—1,000 acre-feet per annum	
	<u>Erickson</u>	<u>Stetson</u>
Water required for use in Arizona, California, and Nevada from main stream	8,824	8,824
Flow at Lee Ferry not available for beneficial consumptive use in lower basin	<u>2,350</u>	<u>2,525</u>
Lee Ferry flow necessary to meet Master's expectation	11,174	11,349

There can be no basis, either from the record or from facts outside the record, for anticipating future flows at Lee Ferry anywhere approaching 11,200,000 acre-feet per annum, at any time in the future after Glen Canyon Dam is closed in 1962. Yet that is the flow which the uncontradicted evidence shows must be available if the Master's assumption of a full supply for the Metropolitan Aqueduct for the "foreseeable" and "unforeseeable" future is to be realized.

Three errors can be identified in the Special Master's conclusion:

- (a) *The Master Improperly Treats Unused Upper Basin Water as Part of the Supply Available to the Lower Basin in Testing the Effect of the Recommended Decree*

The Master's inclusion of unused upper basin water⁷ in the lower basin supply was revealed in the following colloquy between California counsel and the bench during the California rebuttal argument in New York City on August 19:

"Mr. Ely: I think what you said yesterday and today is the key to this whole matter, that if there is a possibility or a probability of disaster attending upon the results of your decree it should be taken into account and you now told us this morning that you see not the slightest chance of that within your lifetime or ours.

"The Master: And in the more distant future.

"Mr. Ely: I think you should say that. I think you should say that in your report.

⁷By the term "unused upper basin water," we mean water which is legally and physically available for use in the upper basin although presently unused in that basin.

30
"The Master: The post-space age perhaps will drain the moon of its water supply. I don't know and don't pretend to guess.

"Mr. Ely: We are in effect relying upon unused Upper Basin water.

"The Master: It is a factor.

"Mr. Ely: It should not be a factor. That is where we break apart. The Colorado River Compact must be respected. It apportions in perpetuity water in the Upper Basin. It is not the basis of a decree here or the basis of financing great projects.

"The Master: What you are saying is if you had known that in 1933 maybe you wouldn't have spent the money to build it because you wouldn't want to have relied upon it. It was built and is gushing with water today and will continue to gush full of water and it doesn't make any difference whether the water is derived from III(a), III(b), III(c), III(d) or unused Upper Basin water or any other supply because unused Upper Basin water is water that rightfully belongs to the Lower Basin under the Compact." [Tr. 23,086-87.]

The foregoing colloquy reveals that the Master's proposed decision is profoundly influenced by the resolution of an issue not tried—availability to the lower basin of water apportioned in perpetuity to the upper basin by the Colorado River Compact. The suit was brought by Arizona to quiet title to specified quantities of water permanently available to the lower basin under the Colorado River Compact. It was tried on that basis.

In 1948, the Secretary of the Interior, in his report to Congress on the Central Arizona Project, stated:⁸

"If the contentions of the State of Arizona are correct, there is an ample water supply for this project. If the contentions of California are correct, there will be *no dependable water supply* available from the Colorado River for this diversion."
(Emphasis added.)

The Secretary referred to water available to the lower basin under the Colorado River Compact, with the upper basin's apportionment in perpetuity subtracted. This was the issue pleaded, tried, and briefed. A decision on any other basis would not provide an answer to the question posed by the Secretary of the Interior which the parties sought to have litigated in their 1952 and 1953 pleadings, and which they thought they were litigating throughout the trial.

The Special Master addressed himself to the Secretary's question in the argument on August 19, 1960:

"Let me ask one question which is disturbing me. You remember there was a communication from the Secretary of the Interior to the Congress of the United States, or to one of its committees, wherein he said that the [Central Arizona] project is under certain circumstances feasible. I won't go into the details. He further said if Arizona is right then there is water sufficient to operate such a project.

⁸H.R. Doc. No. 136, 81st Cong., 1st Sess. IV (1949), Ariz. Ex. 70, quoted DR 30.

"Did he thereby mean that he would deprive the Metropolitan Water Project of aqueduct water? Is that what the Secretary of the Interior meant? Or did he mean that if the legal availability was such there would be enough water to supply both?" [Tr. 23,091.]

The Master rephrased his question:

"Did he [the Secretary] mean the Metropolitan District would be curtailed in its capacity for further expansion?" [Tr. 23,092.]

The answer to the Special Master's question is found "in the Secretary's communication to Congress."⁹ The answer is abundantly clear. Under Arizona's then legal contention, the Secretary reported¹⁰ that California would be limited to 4,400,000 acre-feet plus presumably 55,000 acre-feet "under article III(f)."¹¹ California's right would be reduced by a proportionate share of reservoir losses, or more than half a million acre-feet. In short, the entire Colorado River Aqueduct supply would be destroyed.

⁹H.R. Doc. No. 136, 81st Cong., 1st Sess. 151 (1949); reproduced in Calif. Ex. 7514-F for iden., tendered with the August 17, 1960, offer of proof, from Ariz. Ex. 71.

¹⁰The Secretary's calculation was based on a 16,270,000 acre-foot average annual virgin flow at Lee Ferry—more than 1,000,000 acre-feet larger than any evidence in this case supports. *Id.* at 150.

¹¹Line 10 of the table in H.R. Doc. No. 136, note 1 *supra*, shows "total surplus" of 220,000 acre-feet per annum, of which 55,000 acre-feet are allocated to Arizona "under article III(f) of the compact." Under the "excess or surplus" provision of the Limitation Act, California's half would also equal 55,000 acre-feet, although the table does not so state.

(b) *The Special Master Improperly Resorts to Judicial Notice to Determine the Quantities of Unused Upper Basin Water Available to the Lower Basin*

The Master's improper resort to judicial notice was revealed in the following colloquy during the August 19, 1960, rebuttal argument:

"The Master: There is a provision in the Compact, you know [Article III(e)], that the Upper Basin is not going to withhold water they haven't any use for. Nobody has mentioned that, but it is there. It is as much an obligation of the Upper Basin as III(d).

"Mr. Ely: That is true, your Honor.

"The Master: And I haven't seen any projects which say they are going to use 6½ million acre-feet of water either written, proposed or contemplated.

"Mr. Ely: That is a most important assumption in this lawsuit, if that is the one you are making, your Honor.

"The Master: I am not making an assumption. I said there is nothing in the evidence which indicates any such consumption in the Upper Basin, as you have postulated in the Stetson study.

"Mr. Ely: He wasn't there to do that. His function, as he explained, was to say if the reservoirs are built that have been authorized, how much water will they control, and the residue will come down to the Lower Basin.

"Your Honor, the issue has not been tried as to the rate of expansion in the Upper Basin. We think it is totally irrelevant."¹²

"The Master: No, but there is evidence in the record which shows the maximum consumptive use in the Upper Basin contemplated is not more than four million eight.

"Mr. Ely: I must respectfully differ with you, sir. That is not correct. That issue was not tried. There is in the record one or two pages from a departmental study.

"The Master: If that is not in the record, there is no proof on the subject and there is no proof on it and certainly Mr. Stetson's assumption it will be 6½ million has no rock to sit on." [Tr. 23,081-82.]

The figure of 4,800,000 acre-feet which the Master in the foregoing colloquy described as "the maximum consumptive use in the Upper Basin contemplated" is not in evidence. It is not found in the Draft Report. Its source is the following paragraph from Senate Report No. 128, 84th Congress, 1st Session, on S. 500

¹²Compare the following colloquy:

"MR. ELY: Your Honor, how soon the Upper Basin may develop is not tried.

"THE MASTER: In a sense that is true. We did have the historic flows at Lee Ferry, we had the historic flows at Lake Mead. Those we had right down to date, at least down to fairly recent date, and, of course, we could take judicial notice of the [Colorado River Storage Project] statute. I think, in fact, it was offered in evidence in some of the reports, and I have the Stetson estimates and I have the Erickson hypothesis and so forth. To that extent we had some material on the Upper Basin." [Tr. 23,104.]

(a Colorado River Storage Project bill), which the Special Master identified as the basis of his information. [Tr. 23,103.] The Senate committee report states:

"The Committee concluded that it was satisfactorily established by the evidence that the aggregate of the consumptive use of water that will be made, if all of the works hereby proposed to be authorized are eventually constructed after meeting the various conditions imposed, when added to consumptive use already being made in the upper division States, will amount to less than two-thirds of the apportionment made to the upper basin under the compact. When all storage units and participating projects *named in this bill* are constructed, the aggregate of all consumptive uses in the Upper Basin would not exceed *4.8 million acre-feet of water per annum*. This would leave an unused apportionment of 2.7 million acre-feet of the 7.5 million acre-feet apportioned to the Upper Basin to meet any contingencies arising out of litigation over varying interpretations of the compact. In the circumstances, the continuity of the water supply for the Lower Basin would be assured." (P. 4.) (Emphasis added.)

The facts recited in the above quoted paragraph from Senate Report No. 128 are irrelevant, even assuming judicial notice were proper. The committee addressed itself only to specific elements of upper basin depletion—those occasioned by existing projects together with the works named in S. 500. It did not concern itself with either future non-federal development in the upper basin, or federal development under other legislation.

Furthermore, this opinion of the Senate committee does not constitute a fact which is judicially noticeable. The hydrology on which the Senate committee report is based is not an indisputable fact of common knowledge on which evidence is unnecessary.

Finally, the major error is that the Special Master has conclusively established unlitigated facts by judicial notice, without notice to the parties and without affording them an opportunity for refutation. See *Stasiukevitch v. Nicolls*, 168 F. 2d 474, 479 (1st Cir. 1948). Senate Report No. 128 was called to the Master's attention by California counsel during the trial. [Tr. 12,200.] The Master at that time refused to permit California counsel either to read from the document or to comment upon it. It was not cited or referred to in the proposed findings, conclusions, or briefs of any party.

In this case, by stipulated pretrial order, and for the express purpose of giving parties an opportunity to prevent such an improper or mistaken exercise of judicial notice, the Draft Report was circulated prior to submission of a report to the Court. The ground rules for judicial notice established at the beginning of the trial¹³ were restated by the Master at the close of the trial:¹⁴

¹³"THE MASTER: . . . I would be perfectly agreeable to have the [pretrial] order provide, and not leave it to chance, that the Master shall circulate his proposed report before filing, and then if there is an issue about judicial notice there, we can, if necessary, have it briefed or argued orally, take whatever steps the occasion calls for." [Pretrial conference, Tr. 239-40.] Accordingly, an order to circulate a draft report is incorporated in article III-H of the pretrial order.

¹⁴Tr. 22,375. The statement was made with respect to the Master's exclusion of Calif. Ex. 5588, S. Doc. No. 23, 84th

"The Master: . . . [O]ne of the reasons why we had all agreed that we would circulate a draft report in advance of filing was that, in the event anything was judicially noticed about which the parties might have argument that it should or should not have been judicially noticed, that would be an appropriate time to call attention to it, because it is impossible to forecast what that might be; . . ."

The Draft Report did not advise us that the Master had judicially noticed that upper basin consumptive use would not exceed 4,800,000 acre-feet per annum. That alleged fact is relevant in this suit, if at all, only to lower basin water supply. The Draft Report advised only that the water supply cannot be determined. Not until the rebuttal argument in New York City did the California defendants learn that the Master in fact believes that water is sufficiently abundant that the Colorado River Aqueduct's junior priority will be fully protected, and that the Master's belief is based on judicial notice with respect to a supposed ceiling of 4,800,000 acre-feet per annum of upper basin consumptive use.

(c) *The Supposed Facts Which the Special Master Reveals He Has Judicially Noticed, and Which May Profoundly Influence His Decision, Are Manifestly Wrong*

First, even if 4,800,000 acre-feet per year were established as the maximum upper basin depletion, the conclusion which the Special Master draws therefrom

Cong., 1st Sess.: *Report on Depletion of Surface Water Supplies of Colorado West of Continental Divide* (1955) and Calif. Ex. 5588-A, which consists of excerpts therefrom. [Tr. 22,373-74.]

as to available water supply in the lower basin is demonstrably erroneous. The maximum average annual virgin flow at Lee Ferry used in any water supply study in evidence, or asserted by any witness as a basis for water supply calculations, is 15.2 million acre-feet. If the Master's 4.8 million acre-foot ceiling on upper basin depletions be correct, only 10.4 million acre-feet (15.2 minus 4.8) would be available at Lee Ferry for all consumptive use from the main stream, for net main stream losses, and for deliveries to Mexico. This quantity of water is 774,000 acre-feet per year less than 11,174,000 acre-feet, the smallest estimate (based on Erickson's losses) of the minimum Lee Ferry flow that must be available to support the consumptive use which the Master is convinced will be available to the lower basin.

To put it another way, a depletion of 4,800,000 acre-feet in the upper basin, added to the 11,174,000 acre-feet annual average that the Master necessarily supposes will flow at Lee Ferry, requires an average annual undepleted flow of 15,974,000 acre-feet per year, assuming Erickson's losses. Using Stetson's losses, the average annual undepleted Lee Ferry flow would have to be 16,149,000 acre-feet. This is larger than any longtime average figure for undepleted or virgin flow used by any witness. Furthermore, the Secretary of the Interior, to whom the Master would entrust the operation of the river, has recently based his calculations on the 1922-1957 period.¹⁵ The virgin or undepleted flow

¹⁵See S. Doc. No. 84, 86th Cong., 2d Sess. (1959), Colorado River Storage Project: A Memorandum and Statement of the Secretary of the Interior Transmitting the Proposed General Principles To Govern, and Operating Criteria for, Glen Canyon and Lake Mead During the Glen Canyon Filling Period, p. xi.

for this period was about 14,200,000 acre-feet per annum average.

Second, the Draft Report reveals that historically, long before the passage of the Colorado River Storage Project Act, Lee Ferry flows were several million acre-feet per year smaller than the quantity the Special Master has apparently assumed to be available now and in the foreseeable and unforeseeable future. For example, the historic flow at Lee Ferry from 1929 through 1958 totaled 355,417,100 acre-feet (DR 102), an average of approximately 11,850,000 acre-feet per year. This quantity leaves an average annual margin of only 676,000 acre-feet per year for increased upper basin depletions over the 11,174,000 acre-feet per annum described above as the flow required at Lee Ferry. This margin is less than the 691,000 acre-feet average annual reservoir evaporation from the four Colorado River Storage Project reservoirs.¹⁶

Third, on the basis of the increased upper basin uses assumed by the Special Master and the historic flows as set forth in the Draft Report, it can be proved that there is no water supply from the upper basin for the Metropolitan Water District. The Master recognizes a total upper basin depletion of 4,800,000 acre-feet per annum. This is an increase of 2,900,000 acre-feet per annum over the average annual depletion of 1.9 million acre-feet for the period 1912-1957.¹⁷ Deducting this 2,900,000 acre-feet increase in depletion from the 11,850,000 acre-feet per year of Lee Ferry flow, 1929-1958, set forth above, leaves 8,950,000 acre-feet per annum average at Lee Ferry in a future 30-year

¹⁶S. Doc. No. 101, 85th Cong., 2d Sess., p. 13.

¹⁷Hill, Tr. 21,751, 21,754.

period of equal runoff. Deducting the Mexican delivery and the minimum (Erickson) net losses of 2,350,000 acre-feet from this future Lee Ferry flow, the quantity available from the main stream for consumptive use among the three lower division states is 6,600,000 acre-feet per year. Under the Master's formula, California would receive $44/75$ of this quantity or 3,872,000 acre-feet. This will supply the California Indians and almost all of the first three agricultural priorities, but there would be no water for the Metropolitan Water District.

B. What Our Evidence Will Prove

We submit the following statement of what our evidence will prove with respect to depletion of the Colorado River at Lee Ferry by projects in the upper basin, and the effect on the water supply of the Metropolitan Water District under the decree proposed in the Draft Report:

1. Existing projects in the upper basin will permanently deplete the flow of the river by approximately 2.55 million acre-feet per annum by 1963.

2. Upper basin projects under construction or now authorized will deplete the flow of the river by about an additional 1.29 million acre-feet per annum between 1963 and 1970, making a total permanent depletion when added to that specified in paragraph 1 of 3.84 million acre-feet per annum by 1970.

3. Upper basin projects pending authorization will deplete the flow of the river by about an additional 1.60 million acre-feet per annum, making a total permanent depletion when added to that specified in paragraphs 1 and 2 of 5.44 million acre-feet per annum by 1980.

4. There is a high degree of probability that additional federal and non-federal upper basin projects, not taken into account in the preceding three paragraphs, will deplete the flow of the river by about an additional 0.75 million acre-feet per annum, bringing the total permanent depletion at Lee Ferry to 6.19 million acre-feet per annum by 1990.

5. There are potential projects in the upper basin which, together with the projects referred to above, could deplete the Lee Ferry flow by a total of more than 9 million acre-feet per annum¹⁸ by the end of this century if the water were both legally and physically available to sustain such use. Economic development and population growth taking place in the upper basin states will bring about this demand for water.

6. In addition to the permanent depletions of the flow at Lee Ferry, referred to in the preceding paragraphs, substantial temporary depletions will occur beginning in 1962 by reason of the initial filling of the four reservoirs authorized by the Colorado River Storage Project Act.¹⁹ These reservoirs have a combined capacity of 34.7 million acre-feet,²⁰ and the three largest are already well under construction. There will be further temporary filling depletions as other reservoirs are added.

7. Assuming (1) the upper basin depletions of 6.19 million acre-feet per year described above, (2) construction of the proposed Central Arizona Project with a di-

¹⁸See H.R. Doc. No. 419, 80th Cong., 1st Sess. 107-51 (1947).

¹⁹70 Stat. 105 (1956), 43 U.S.C. § 620 (1958).

²⁰S. Doc. No. 101, 85th Cong., 2d Sess. 3 (1958).

version requirement of at least 1.2 million acre-feet per annum²¹ in addition to the full requirements of existing Arizona projects using main stream water, and (3) developments in Nevada which will use all main stream water available to her under the proposed decree: The Metropolitan Water District's Colorado River Aqueduct would be deprived of its entire water supply by 1990 under the decree proposed in the Draft Report.

Only brief comment is necessary upon the evidence which will prove the foregoing. The upper basin states will undoubtedly use all the water legally and physically available to them. There is no basis for the Special Master's apparent assumption that they will not. The only points upon which there can be any difference of opinion among qualified experts are (a) the rate at which upper basin developments will proceed and (b) the date when their full supply will be put to use.

As to quantities, the evidence which we shall offer conforms substantially to the 1958 estimates of the Bureau of Reclamation contained in Senate Document No. 101, 85th Congress, 2d Session 13 (1958), that depletion by the upper basin will reach 6.19 million acre-feet, exclusive of reservoir filling.

As to the rate of development, we point out that the policy of Congress to initiate the comprehensive development of the water resources of the upper Colorado River basin to permit it to use its apportionment under the Colorado River Compact has been declared by the Colorado River Storage Project Act of 1956.²² That act also provides the mechanism for aid in financing

²¹See H.R. Doc. No. 136, 81st Cong., 1st Sess. 153 (1949).

²²70 Stat. 105 (1956), 43 U.S.C. § 620 (1958).

that development by revenues from generation and sale of hydroelectric power.

The Bureau's projected rate of upper basin development after 1970 set forth in Senate Document No. 101 has already proved to be too slow. In 1958, the Bureau of Reclamation scheduled all storage units of the Colorado River Storage Project and all of its initial participating projects except for a portion of the Central Utah Project (initial phase) for completion between 1963 and 1975.²³ Substantial construction funds have already been appropriated for all four storage units and for six of ten participating projects. Furthermore, the construction schedule set forth in Senate Document No. 101 has already been advanced for most of these projects, and by as much as five years.²⁴

C. Conclusion

If the facts were as the Master pictured them on August 19 in the New York City argument, there would be no reason for a decision by the Court. Arizona would be entitled to a decree which frees the tributaries and gives her (if Metropolitan is indeed to have a full supply) more water than she has ever sought from the main stream. California would also receive more water than California sought from the dependable supply in the decree we proposed. It is impossible, on these facts, to find a justiciable case or controversy.

It is apparent that the Special Master has made a major error in overstating the water supply. The con-

²³S. Doc. No. 101, at insert following p. 12.

²⁴See *Hearings on Public Works Appropriations for 1961 Before the Subcommittee of the House Committee on Appropriations*, 86th Cong., 2d Sess. 481-548 (1960).

sequences of that error are even more serious than the same error of the Compact negotiators in 1922. The life of existing projects is now at stake. The Compact negotiators did the best they could with a short and inaccurate record. The Court today is not similarly handicapped.

However, unless the Draft Report is corrected, the decision will be made without adequate consideration of the facts. The Master concedes that if he took a different view of the water supply, he might take a different view of the law. The same may well be true of the Court. However, the Court must look to the Master's findings in the first instance, and from those findings as they stand in the Draft Report, the Court will learn nothing at all of water supply or the consequences of its decision.

Were this suit a controversy among water users in any of the five litigant states, the Court would inform itself of the facts with respect to water supply²⁵ and would be aware of the consequences of decision. The sovereign states before this Court are entitled to at least as much consideration.

Dated: August 31, 1960.

²⁵See Calif. Conclusion 6D:206, p. VI-13.

TABLE 1

TABLE 1
ANNUAL BENEFICIAL CONSUMPTIVE USE REQUIREMENTS
OF EXISTING MAIN STREAM PROJECTS IN CALIFORNIA*

Calif. Finding No.	Date of Priority	Project ¹	Requirements (Acre-Feet)	Net Area (Acres)	Maximum Historic Use In Evidence (Acre-Feet)	Maximum Area Irrigated In Evidence (Acres)	Principal Type of Use
4C:102	7-17-77	Palo Verde Irr. Dist.	420,000	105,000	296,000	74,000	Irrigation
4C:104	7-8-05	Yuma Project, Res. Div.	70,500	20,100	44,500	12,700	Irrigation
4C:105 -07	5-16-95	All-American Canal Project (Imperial and Coachella)	3,359,500	661,000 (882,900) ²	3,662,000	524,000	Irrigation
4C:108 -09	6-28-24 4-15-26	Metropolitan Water District	1,212,000	.....	584,000	.....	Domestic ³
4C:105 -07	5-16-95	All-American Canal Project (Imperial and Coachella)	300,000	.....	.....	.....	Irrigation
4C:110	—	Miscellaneous	16,000	.....	8,000	2,400	Irrigation
		Total	5,378,000	786,100 (1,008,000)	4,594,500	613,100	

*NOTE: Quantities rounded to nearest 500 acre-feet and nearest 100 acres.

¹Projects listed in order of priority as modified by Seven-Party Agreement.

²Total net irrigable acreage for which capacity is provided in main canal system.

³"Domestic" is used in the sense employed in Article II(h) of the Colorado River Compact.

TABLE 2

ANNUAL BENEFICIAL CONSUMPTIVE USE REQUIREMENTS OF EXISTING
MAIN STREAM PROJECTS IN ARIZONA*

Calif. Finding No.	Date of Priority	Project	Require- ments (Acre-Feet)	Net Area (Acres)	Maximum Irrigated Area (Acres)	Principal Type of Use
4D:102	3-1-93	City of Yuma	14,500	—	—	Domestic ¹ and Irrigation
4D:103	10-21-03	Colorado River Indian Reservation	329,500	98,900	30,000	Irrigation
4D:104	7-8-05	Yuma Project, Valley Division	166,500	52,000	47,600	Irrigation
4D:105	7-8-05	Yuma Auxiliary Project (Unit B)	13,000	3,300	2,500	Irrigation
4D:106 & 107	7-8-05	Yuma Mesa } North Gila } South Gila }	Gila Project, Yuma Mesa Division 300,000	25,000 6,700 8,300	14,600 6,900 10,000	Irrigation Irrigation Irrigation
4D:106 & 108	11-10-51	Gila Project, Wellton-Mohawk Division	300,000	75,000	30,500	Irrigation
4D:110	Undated	Special use contracts	6,000	—	—	Domestic ¹
4D:109	Undated	Miscellaneous	80,000	—	11,400	Irrigation
		Total	1,209,500	269,200	153,500	

*NOTE: Quantities rounded to nearest 500 acre-feet and nearest 100 acres.

¹"Domestic" is used in the sense employed in Article II(h) of the Colorado River Compact.

TABLE 3

ANNUAL BENEFICIAL CONSUMPTIVE USE REQUIREMENTS OF EXISTING
MAIN STREAM PROJECTS IN NEVADA

Calif. Finding No.	Date of Priority	Project	Require- ments (Acre-Feet)*	Net Area (Acres)	Maximum Historic Use (Acre-Feet)	Maximum Area Irrigated (Acres)	Principal Type of Use ¹
4E:102	6-25-29	Boulder City	5,000	—	2,750	—	Domestic
4E:103	1-28-42	Defense Plant Corp.	32,500	—	**	—	Domestic
4E:104	3-28-42	Basic Management, Inc.	8,500	—	**	—	Domestic
4E:105	3-30-42	Reconstruction Finance Corp.	3,500	—	**	—	Domestic
4E:106	6-19-50	Las Vegas Valley Water District	43,000	—	**	—	Domestic
4E:107	3-26-54	Manganese, Inc.	1,500	—	**	—	Domestic
4E:108	5-23-55	E. L. Cleveland	1,000	230	—	—	Irrigation
4E:109	6-29-55	City of Henderson	25,000	—	**	—	Domestic
4E:110	12-27-55	River Valley Resort, Inc.	500	115	—	—	Domestic and Irrigation
Total			120,500	345	24,450	—	

*Rounded to nearest 500 acre-feet.

**The maximum combined use of Defense Plant Corp., Basic Management, Inc., Reconstruction Finance Corp., Las Vegas Valley Water District, Manganese, Inc., and City of Henderson was 21,700 acre-feet. The record does not show segregation among these users. The aggregate quantity is reflected in the total.

¹"Domestic" is used in the sense employed in Article II(h) of the Colorado River Compact.

February 1960

TABLE 4*
Colorado River Storage Project and Lake Mead
Summary of operation
1975 Conditions
(Unit—1,000 acre-feet)

Lake Mead					
Calendar year	Total inflow	Evapo-ration	Power releases		Total reservoir content end of year ¹
			Scheduled	Other	
(1)	(16)	(17)	(18)	(19)	(20)
1906	11,100	893	9,800		25,465
07	15,829	978	↑	359	25,872
08	11,237	1,033		404	30,564
09	19,298	1,033		8,465	30,564
1910	12,595	1,033		1,762	30,564
11	13,256	1,033		2,423	30,564
12	16,292	1,033		5,459	30,564
13	11,723	1,033		890	30,564
14	17,138	1,033		6,305	30,564
15	12,049	1,033		1,216	30,564
16	16,617	1,033		4,784	30,564
17	19,738	1,033		8,905	30,564
18	12,466	1,033		1,633	30,564
19	10,300	1,028			30,036
1920	17,011	1,030		5,653	30,564
21	18,528	1,033		7,695	30,564
22	16,593	1,033		5,760	30,564
23	15,330	1,033		4,497	30,564
24	12,814	1,033		1,981	30,564
25	10,100	1,027			29,837
26	11,459	1,024			30,472
27	13,642	1,030		2,720	30,564
28	14,393	1,033		3,560	30,564
29	15,544	1,033		4,711	30,564
1930	11,703	1,033		870	30,564
31	10,100	1,023			29,841
32	10,700	1,013			29,728
33	10,200	1,004			29,124
34	10,100	987			28,437
35	9,900	966			27,571
36	10,300	947			27,124
37	10,800	942			27,182
38	10,600	940			27,042
39	10,400	932			26,710
1940	10,500	923	9,800		26,487

TABLE 4

Lake Mead (Continued)

Calendar year	Total inflow	Evapo- ration	Power releases		Total reservoir content end of year ¹
			Scheduled	Other	
(1)	(16)	(17)	(18)	(19)	(20)
1941	11,700	935	9,800		27,452
42	10,300	943			27,009
43	10,200	928			26,481
44	10,300	913			26,068
45	10,500	903			25,865
46	10,200	893			25,372
47	10,400	881			25,091
48	9,800	863			24,228
49	12,579	878			26,129
1950	9,800	894			25,235
51	9,900	868			24,467
52	14,619	918			28,368
53	9,800	963			27,405
54	9,900	935			26,570
55	10,300	916			26,154
56	10,000	898			25,456
57	10,900	890			25,666
58	11,300	902			26,264
1959	9,900	899	9,800		25,465
Total					
31-59	305,998	26,897	284,200		
06-59	661,753	52,501	529,200		
Average					
31-59	10,552	928	9,800		26,689
06-59	12,255	972	9,800		28,371

¹Surface storage based on 1948 Lake Mead survey plus dead storage plus 12½ percent bank storage.

*This table is a reproduction of columns 1, 16, 17, 18, 19, and 20 from table 5, p. 10 of Bureau of Reclamation, Regional Office, Region 4, U.S. Dep't of the Interior, *Financial and Power Rate Analysis—Colorado River Storage Project and Participating Projects* (September 1960).

TABLE 5*
Colorado River Storage Project and Lake Mead
Summary of operation
2020 Conditions
(Unit—1,000 acre-feet)

February 1960

Lake Mead					
Calendar year	Total inflow	Evapo- ration	Power releases		Total reservoir content end of year ¹
			Scheduled	Other	
(1)	(16)	(17)	(18)	(19)	(20)
					19,607
1906	9,700	758	8,500	—	20,049
07	12,920	807	8,500	—	23,662
08	9,300	856	8,500	—	23,606
09	16,668	966	8,500	1,208	29,600
1910	11,417	1,033	8,500	1,884	29,600
11	11,556	1,033	8,500	2,023	29,600
12	14,268	1,033	8,500	4,735	29,600
13	10,181	1,033	8,500	648	29,600
14	15,116	1,033	8,500	5,583	29,600
15	10,525	1,033	8,500	992	29,600
16	13,769	1,033	8,500	4,236	29,600
17	17,592	1,033	8,500	8,059	29,600
18	10,862	1,033	8,500	1,329	29,600
19	8,900	1,025	8,500	0	28,975
1920	14,901	1,031	8,500	4,745	29,600
21	16,455	1,033	8,500	6,922	29,600
22	14,828	1,033	8,500	5,295	29,600
23	13,415	1,033	8,500	3,882	29,600
24	11,254	1,033	8,500	1,721	29,600
25	8,700	1,022	8,500	0	28,778
26	9,576	1,012	8,500	0	28,842
27	12,178	1,030	8,500	1,890	29,600
28	12,363	1,033	8,500	2,830	29,600
29	13,946	1,033	8,500	4,413	29,600
1930	9,776	1,033	8,500	243	29,600
31	8,700	1,022	8,500	—	28,778
32	9,300	1,008	8,500	—	28,570
33	8,800	995	8,500	—	27,875
34	8,700	975	8,500	—	27,100
35	8,500	948	8,500	—	26,152
36	8,900	927	8,500	—	25,625
37	9,400	915	8,500	—	25,610
38	9,200	912	8,500	—	25,398
39	9,000	902	8,500	—	24,996
1940	8,800	888	8,500	—	24,408

TABLE 5

Lake Mead (Continued)					
Calendar year	Total inflow	Evapo- ration	Power releases		Total reservoir content end of year ¹
			Scheduled	Other	
(1)	(16)	(17)	(18)	(19)	(20)
1941	10,600	896	8,500	—	25,612
42	8,900	908	8,500	—	25,104
43	8,800	890	8,500	—	24,514
44	8,900	874	8,500	—	24,040
45	9,100	862	8,500	—	23,778
46	8,800	852	8,500	—	23,226
47	9,000	838	8,500	—	22,888
48	8,500	823	8,500	—	22,065
49	8,800	805	8,500	—	21,560
1950	8,500	788	8,500	—	20,772
51	8,500	770	8,500	—	20,002
52	11,377	788	8,500	—	22,091
53	8,500	802	8,500	—	21,289
54	8,500	782	8,500	—	20,507
55	8,900	768	8,500	—	20,139
56	8,600	758	8,500	—	19,481
57	9,500	752	8,500	—	19,729
58	9,900	762	8,500	—	20,367
1959	8,500	760	8,500	—	19,607
Total					
31-59	261,477	24,970	246,500	0	
06-59	571,643	50,005	459,000	62,638	
Average					
31-59	9,016	861	8,500		23,492
06-59	10,586	926	8,500	1,160	25,881

¹Includes 12½ percent bank storage plus 2,620,000 acre-feet dead storage.
Assumes 1,000,000 acre-feet of sediment deposition between 1970 and 2020.

*This table is a reproduction of columns 1, 16, 17, 18, 19, and 20 from table 7, p. 12, of Bureau of Reclamation, Regional Office, Region 4, U.S. Dep't of the Interior, *Financial and Power Rate Analysis—Colorado River Storage Project and Participating Projects* (September 1960).

TABLE 6
CALCULATION OF FUTURE USABLE LOWER BASIN WATER SUPPLY
BASED ON 1960 BUREAU OF RECLAMATION PROJECTION*

CALCULATION OF THE FUTURE WATER SUPPLY AVAILABLE TO METROPOLITAN WATER DISTRICT UNDER MASTER'S RECOMMENDED DECREE (Acre-Feet)			CALCULATION OF THE YEAR IN WHICH METROPOLITAN WATER DISTRICT WILL RECEIVE NO WATER UNDER MASTER'S RECOMMENDED DECREE	
	Year 1975	Year 2020		Acre-Feet
Release from Hoover Dam	9,800,000	8,500,000		
Deduction for downstream requirements:			Main stream supply in 1975	7,575,000
Evaporation from Lakes Mohave and Havasu	300,000		Main stream supply in 2020	6,225,000
Natural river losses	600,000		Decrease in main stream supply over 45-year period	1,350,000
Regulatory waste	200,000		Annual rate of decrease (1,350,000 acre-feet ÷ 45 years)	30,000
Mexican Treaty obligation	1,500,000		Quantity of California rights (including Indian reservations) which are senior to Metropolitan Water District	3,900,000
Subtotal	2,600,000		Quantity from main stream necessary to satisfy California's right to 3,900,000 acre-feet	6,650,000
Usable inflow	75,000		Difference between 1975 main stream supply (7,575,000) and quantity necessary to satisfy California rights senior to Metropolitan (6,650,000)	925,000
Net deductions	2,525,000	2,525,000	Number of years after 1975 during which decrease in main stream supply will amount to 925,000 acre-feet (925,000 ÷ 30,000)	31 years
Available for consumptive use in Arizona and California	7,275,000	5,975,000	The year in which there would be no supply for Metropolitan, 1975 plus 31 years equals	Year 2006
Nevada entitlement from above Hoover Dam ¹	300,000	250,000		
Total "mainstream" supply for allocation	7,575,000	6,225,000		
California's share	4,438,000	3,652,000		
To California users with rights senior to Metropolitan Water District (including Indian reservations)	3,900,000	3,900,000		
To Metropolitan Water District	538,000	(- 248,000)		

¹Part of Nevada's main stream use is below Hoover Dam, but it is assumed for purposes of this table that all of Nevada's use is pumped from the reservoir above the dam. Because some of Nevada's uses are from the river below Hoover Dam the water available to California is less than here shown.

*BUREAU OF RECLAMATION, REGION 4, U.S. DEP'T OF THE INTERIOR, FINANCIAL AND POWER RATE ANALYSIS, COLORADO RIVER STORAGE PROJECT AND PARTICIPATING PROJECTS (September 1960).

BASIC WATER RIGHTS: LEGAL SOURCES

APPROPRIATION ONLY

Arizona: Clough v. Wing, 2 Ariz. 371, 17 Pac. 453 (1888); *Colorado*: Coffin v. Left Hand Ditch Co., 6 Colo. 443 (1882); *Idaho*: Hutchinson v. Watson Slough Ditch Co., 16 Idaho 484, 101 Pac. 1059 (1909); *Montana*: Mettler v. Ames Realty Co., 61 Mont. 152, 201 Pac. 702 (1921); *Nevada*: Jones v. Adams, 19 Nev. 78, 6 Pac. 442 (1885); *New Mexico*: Hagerman Irr. Co. v. McMurtry, 16 N.M. 172, 113 Pac. 823 (1911); *Utah*: Stowell v. Johnson, 7 Utah 215, 26 Pac. 290 (1891); *Wyoming*: Moyer v. Preston, 6 Wyo. 308, 44 Pac. 845 (1896).

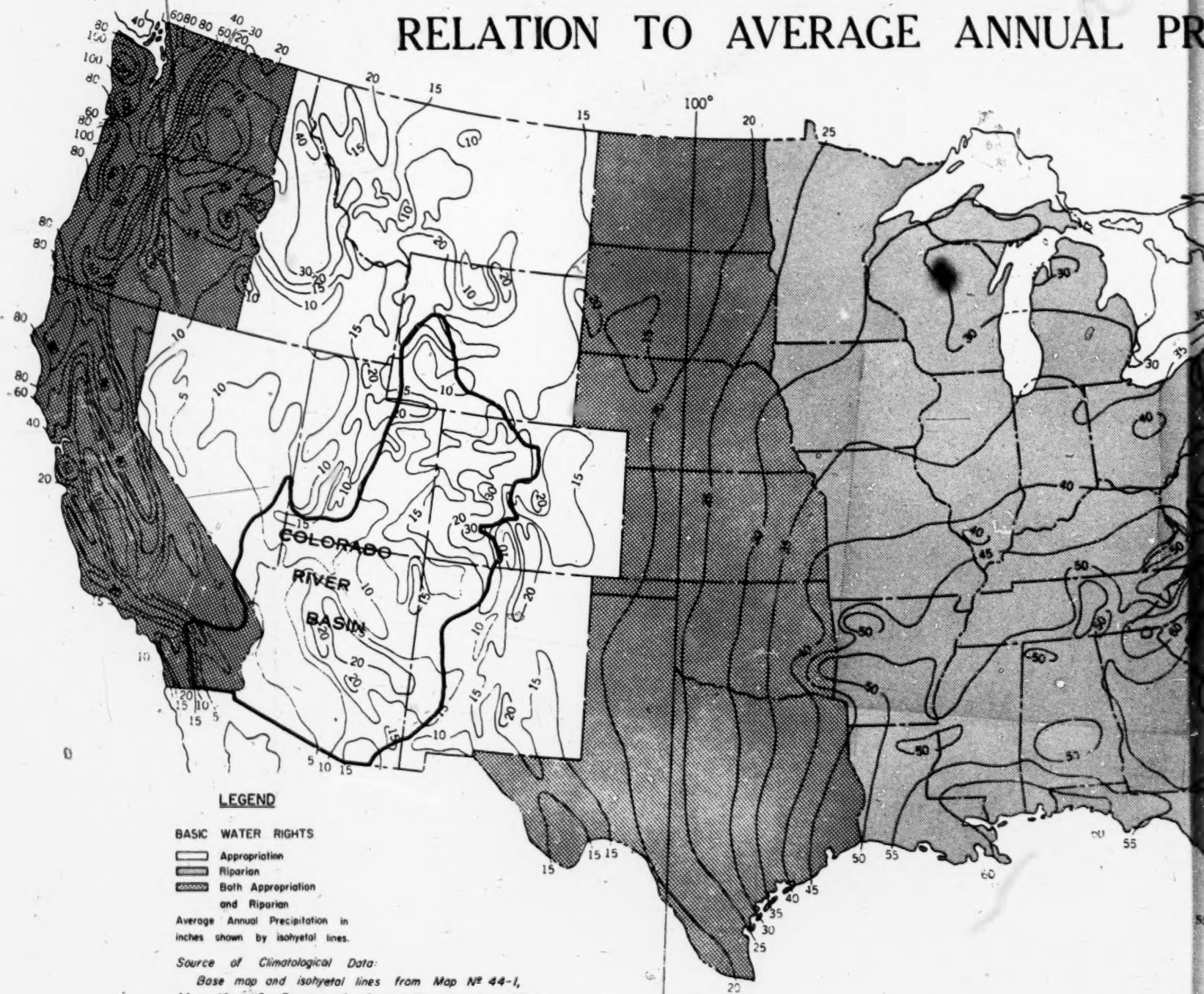
BOTH APPROPRIATION AND RIPARIAN

California: United States v. Gerlach Live Stock Co., 339 U.S. 725, 749 (1950); Lux v. Haggin, 69 Cal. 255, 10 Pac. 674 (1886); CALIF. CONST. art. XIV, § 3; *Kansas*: 4 KINNEY, IRRIGATION AND WATER RIGHTS 3383 (2d ed. 1912); *Nebraska*: *Id.* at 3422; *North Dakota*: *Id.* at 3486; *Oklahoma, Oregon, and South Dakota*: Hutchins, History of the Conflict Between Riparian and Appropriative Rights in the Western States 10, 12-13, 29 (presented at Water Law Conference, University of Texas School of Law, 1954); *Texas*: 4 KINNEY, *op. cit. supra*, at 3576-78; *Washington*: *Id.* at 3625, 3638-39.

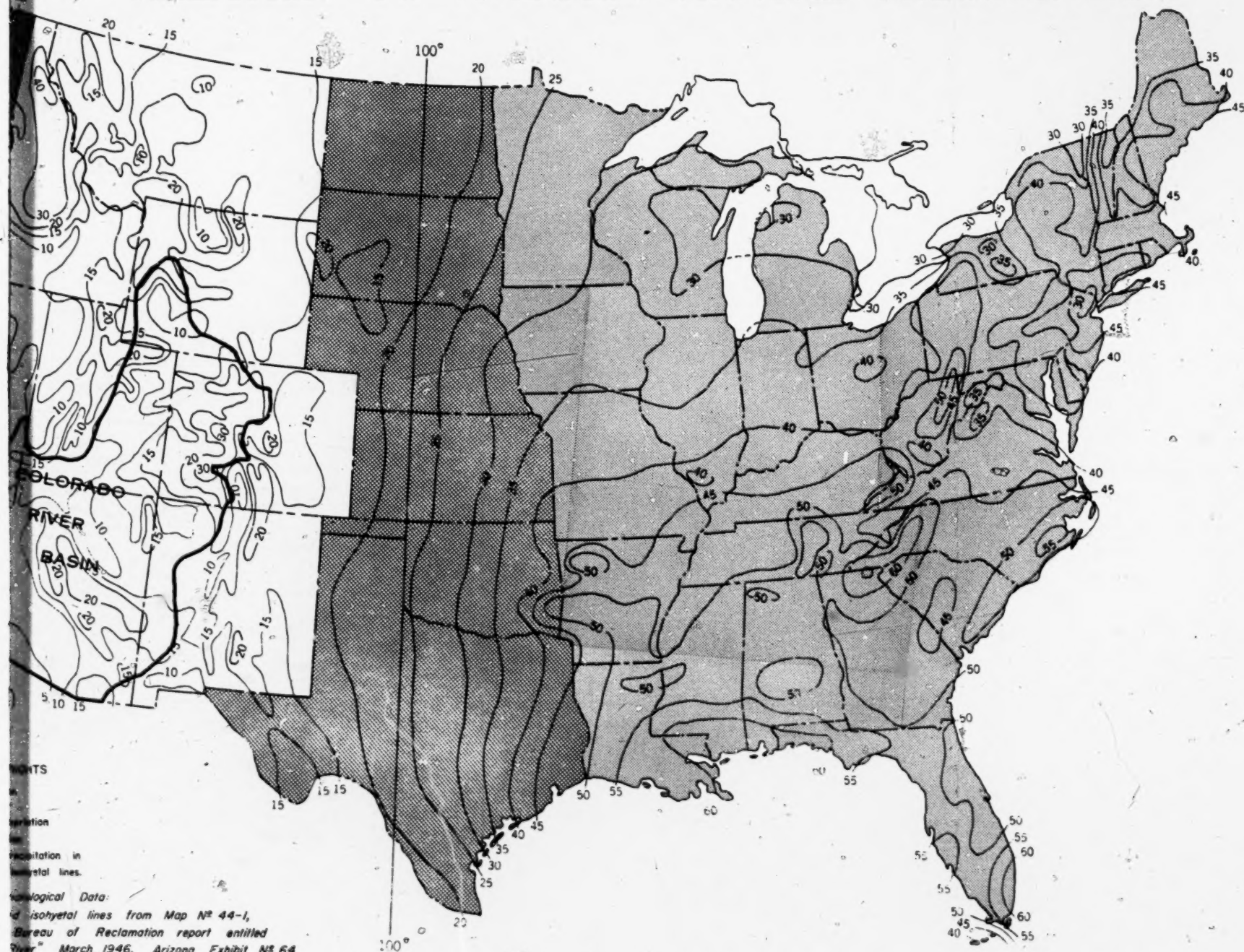
RIPARIAN

Fisher, *Western Experience and Eastern Appropriation Proposals* in THE LAW OF WATER ALLOCATION IN THE EASTERN UNITED STATES 75, published by The Conservation Foundation (Haber & Bergen ed. 1958); Lauer, *The Riparian Right as Property*, in Legislative Research Center, University of Michigan Law School, WATER RESOURCES AND THE LAW 133 n.3 (1958).

MAP OF THE UNITED STATES SHOWING WATER RIGHTS DOCTRINES AND RELATION TO AVERAGE ANNUAL PR



MAP OF THE UNITED STATES SHOWING WATER RIGHTS DOCTRINES AND THEIR RELATION TO AVERAGE ANNUAL PRECIPITATION



ALTERNATE DIVERSION ROUTES FROM MAIN COLORADO RIVER IN LOWER COLORADO RIVER BASIN



SOURCE:

Metropolitan Water District Summary of Preliminary
Surveys, Designs and Estimates, and Final Report
of Engineering Board of Review. p. 148 (Dec. 1930)

U S B R Central Arizona Project Planning Reports (1945-1947)

Congressional Record Vol 68 Part 4 p. 4431,
69th Cong. 2d Sess. (1927)

SOURCES:

¹Not shown are noncontract uses by trespassers on federal lands, by owners of private lands not within organized irrigation districts or federal reservations, and by national wildlife refuges.

²Tr. 22,368-69; ground water adjacent to the Colorado River pumped since early 1880's.

³Ariz. Exs. 38 (Tr. 251), 39 (Tr. 252), and 40 (Tr. 252). See also Ariz. Ex. 41 (Tr. 253), contract of Oct. 4, 1946, merging rights of San Diego under her contract (Ariz. Ex. 40) with rights of Metropolitan Water District under her contract (Ariz. Ex. 38 as amended by Ariz. Ex. 39).

⁴Ariz. Ex. 33 (Tr. 249).

⁵Ariz. Ex. 34 (Tr. 249), Coachella lands included within Imperial contracts; Ariz. Ex. 36 (Tr. 250).

⁶Ariz. Ex. 34 (Tr. 249).

⁷The Bard Irrigation District (Tr. 8,819-20; Calif. Ex. 50 (Tr. 6,898)) has no contract. Individual water users hold water right applications which, on Secretarial approval, become contracts; exemplary contracts are Calif. Exs. 378-380 (Tr. 8,852), dated 1917, 1910, and 1948. See Calif. Ex. 381 (Tr. 8,855).

⁸These Indian lands do not require contracts. Rep. 312 n.3a.

⁹*Ibid.*

¹⁰Ariz. Ex. 93 (Tr. 359).

¹¹From at least 1918 until 1953, this project was served under a water delivery contract between the United States and the North Gila Valley Irrigation District. Ariz. Ex. 91 (Tr. 356). In 1953 the same parties executed a supplemental contract under which present deliveries are made. Ariz. Ex. 95 (Tr. 360).

¹²Area is irrigated by private pumping without contracts and by holders of Warren Act contracts (see note 14 *infra*). (Rep. 53; Tr. 2,209-10; Ariz. Exs. 76 (Tr. 318), table 2; 77B (Tr. 3,992), at 43 (area A-7-C); and 79 (Tr. 327), at 6.) The United States is planning to enter into a contract with the Yuma Irrigation District for this area. Rep. 213.

¹³Ariz. Ex. 96 (Tr. 361); deliveries of water started in 1943 (Ariz. Ex. 186 (Tr. 2,361)).

¹⁴Part of Ariz. Ex. 165 (Tr. 2,247); tabulated in Ariz. Ex. 163 (Tr. 2,223); Warren Act is 36 Stat. 925 (1911), 43 U.S.C. §§ 523-25 (1958).

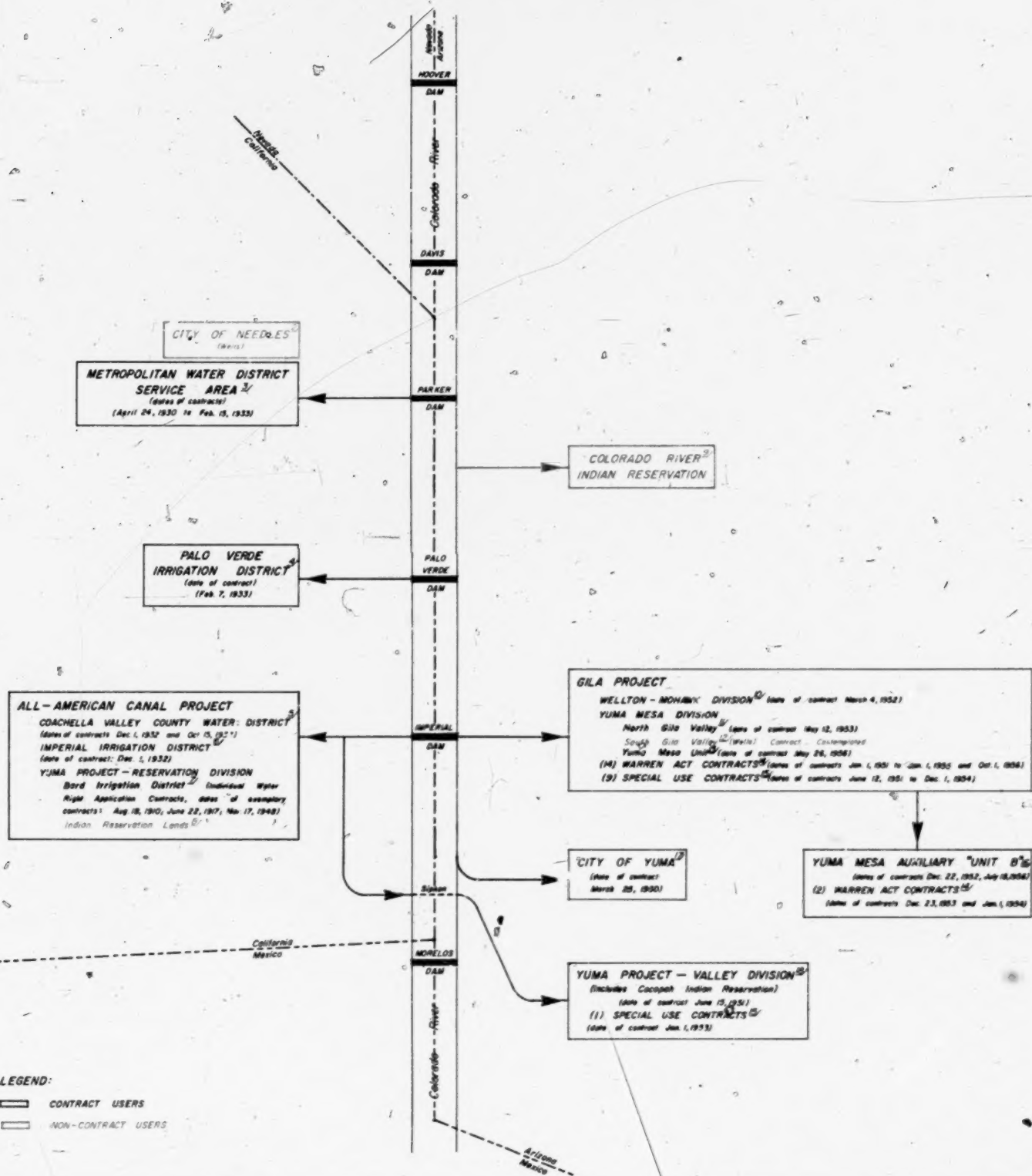
¹⁵Part of Ariz. Ex. 165 (Tr. 2,247); tabulated in Ariz. Ex. 163 (Tr. 2,223); Miscellaneous Special Use Act is 41 Stat. 451 (1920), 43 U.S.C. § 521 (1958).

¹⁶Ariz. Ex. 94 (Tr. 359) as amended by U.S. Ex. 7 (Tr. 15,383-84).

¹⁷Calif. Ex. 7611 for *iden*. (See also contracts No. 158r-303 and 304 tabulated in Ariz. Ex. 163 (Tr. 2,223), at sheet 2.) Use of Colorado River water began in 1893. Tr. 19,897-900, 19,901; Ariz. Ex. 316A (Tr. 19,980).

¹⁸From 1906 until 1951, this project was served under a water delivery contract between the United States and the Yuma County Water Users' Ass'n. U.S. Ex. 19-T (Tr. 15,518). In 1951 the same parties executed a supplemental contract under which present deliveries are made. Ariz. Ex. 92 (Tr. 357).

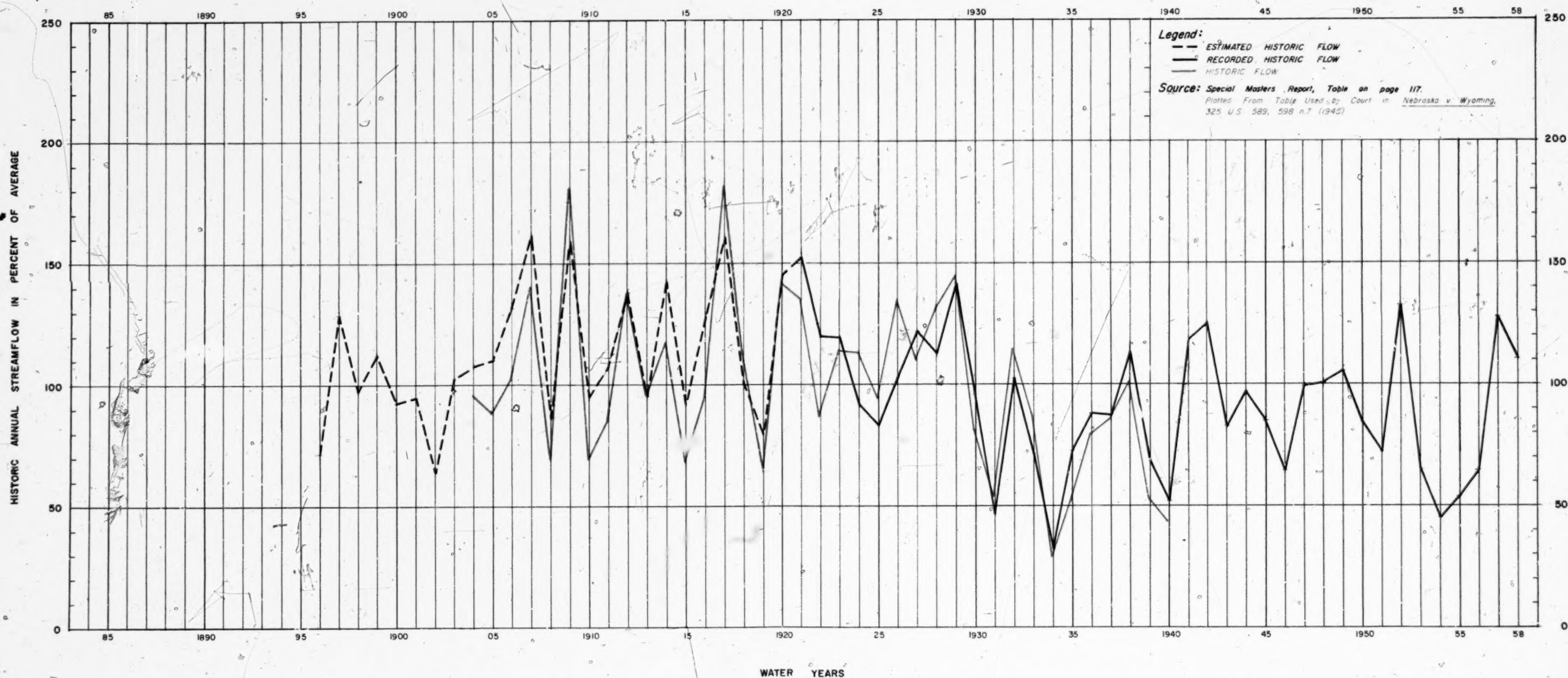
DIAGRAMMATIC SKETCH SHOWING CONTRACT AND NON-CONTRACT USES ALONG THE COLORADO RIVER IN ARIZONA AND CALIFORNIA



LEGEND:
 ——— CONTRACT USERS
 - - - - - NON-CONTRACT USERS

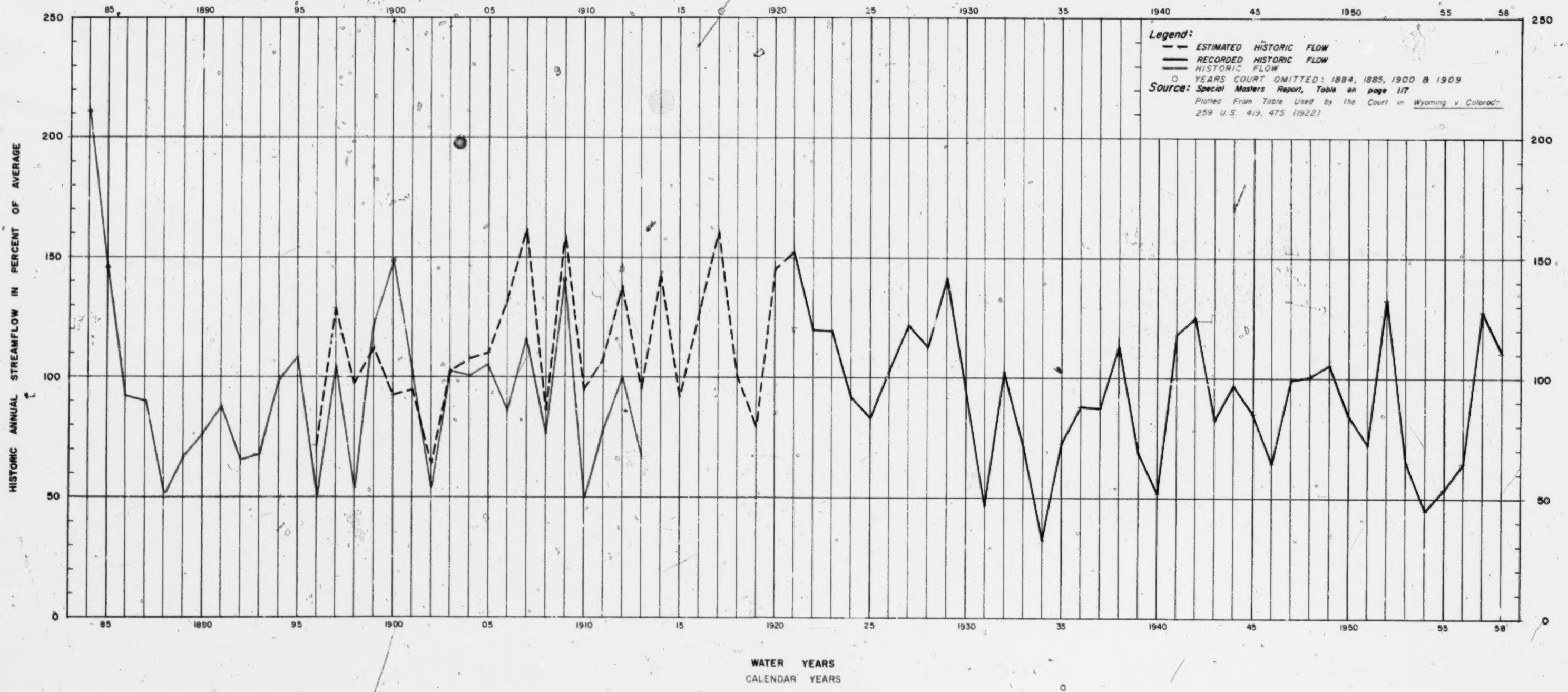
COMPARISON OF FLUCTUATION IN ANNUAL FLOW AND LENGTH OF RECORD

COLORADO RIVER AT LEE FERRY
AND
NORTH PLATTE RIVER AT PATHFINDER



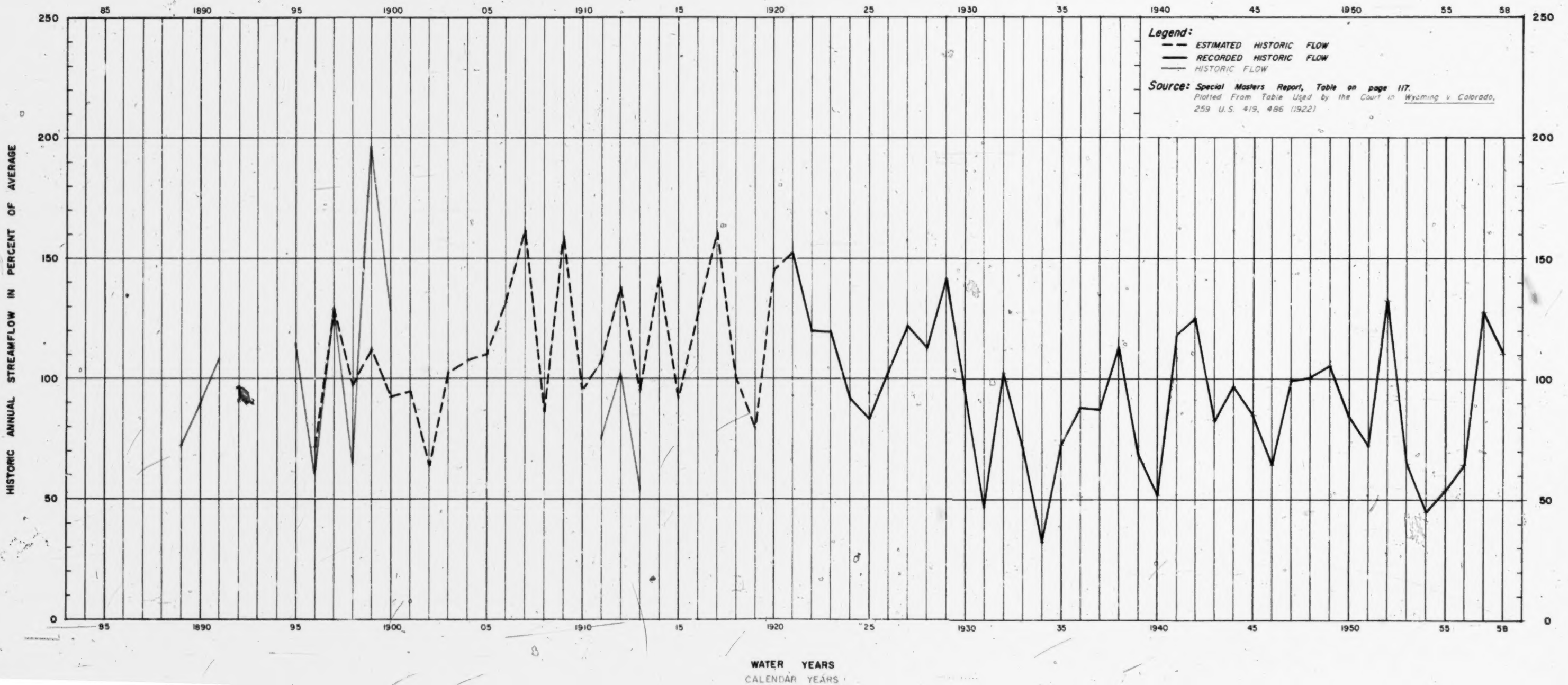
COMPARISON OF FLUCTUATION IN ANNUAL FLOW AND LENGTH OF RECORD

COLORADO RIVER AT LEE FERRY
AND
CACHE LA POUDE RIVER AT MOUTH OF CAÑON



COMPARISON OF FLUCTUATION IN ANNUAL FLOW AND LENGTH OF RECORD

COLORADO RIVER AT LEE FERRY
AND
LARAMIE RIVER



COMPUTATION OF DEPENDABLE SUPPLY

(Explanation accompanying plate 7, schematic diagram, and plate 8, bar graph.)

The following table (in millions of acre-feet per annum) presents data which are illustrated on plates 7 and 8. The numbered items in the table correspond to the circled numbers on the two plates.

Column 1 shows the calculation of the dependable supply by Mr. Stetson for California (Rep. 110-13). It is illustrated on plate 7, a schematic diagram. It is explained in detail in California Findings and Conclusions, part V, pp. V-3 through 33.

Columns 2, 3, and 4 show the calculations of the dependable supply by Mr. Erickson for Arizona (Rep. 110-13).

The comparison of the figures in columns 1, 2, 3, and 4 is shown graphically on plate 8.

The period for all four studies is 1909-1956. The studies presented in columns (1) and (2) are based on all existing and authorized upper basin storage, equivalent to 25 million acre-feet of effective storage capacity at Lee Ferry. (See Tr. 11,721-22.) The Erickson studies presented in columns (3) and (4) raise this effective capacity to 35 million acre-feet. Column (4) assumes upper division delivery at Lee Ferry of an average of 1,280,000 acre-feet of controlled release for the Mexican Treaty obligation. (Ariz. Ex. 358 (Tr. 18,097); see pp. 245-46 and note 4 *supra*.)

(Table on following page.)

(See explanatory note on preceding page.)

Item	Stetson ¹ (1)	Erickson ² (2)	Erickson ³ (3)	Erickson ⁴ (4)
1. "Virgin flow" Colorado River at Lee Ferry	15.2	15.2	15.2	15.2
2. Upper basin depletion at Lee Ferry	6.5	6.8	7.2	6.2
3. Total inflow to lower basin at Lee Ferry (1 minus 2)	8.7	8.4	8.0	9.0
4. Net gain Lee Ferry to Hoover Dam	0.95	0.95	1.0	0.95
5. Lake Mead evaporation	0.65	0.7	0.6	0.45
6. Regulated release from Hoover Dam (3 plus 4 minus 5)	8.7	8.2	8.4	9.5
7. Reservoir evaporation Hoover Dam to upper Mexican boundary	0.3	0.3	0.3	0.3
8. Usable inflow Hoover Dam to upper Mexican boundary	0.075	0.075	0.075	0.075
9. Natural river losses Hoover Dam to upper Mexican boundary	0.6	0.3	0.3	0.3
10. Mexican Water Treaty	1.5	1.5	1.5	1.5
11. Water to Mexico in excess of treaty requirement	0.2	0.075	0.075	0.075
12. Unusable spill from Hoover Dam	0.3	0.5	0	0
13. Net usable supply for lower basin from main stream (6 plus 8 minus 7, 9, 10, 11, and 12)	6.175	6.1	6.3	7.4

¹Calif. Exs. 2216 and 2216A (Tr. 11,825), as corrected at Tr. 21,836.

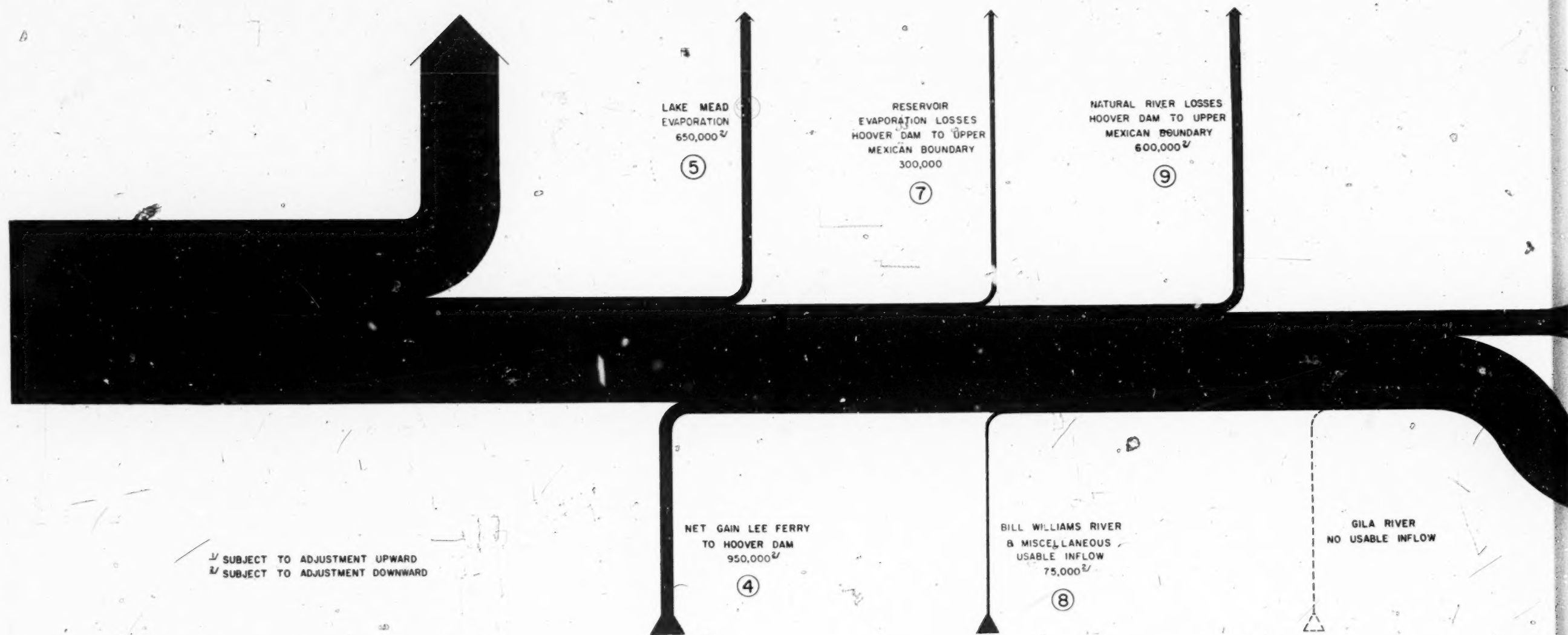
²Tr. 18,913-15.

³Tr. 18,812-19. Due to an apparent arithmetical mistake, the witness erroneously stated that the net usable supply on the basis of this study would be 6.5 million acre-feet per annum.

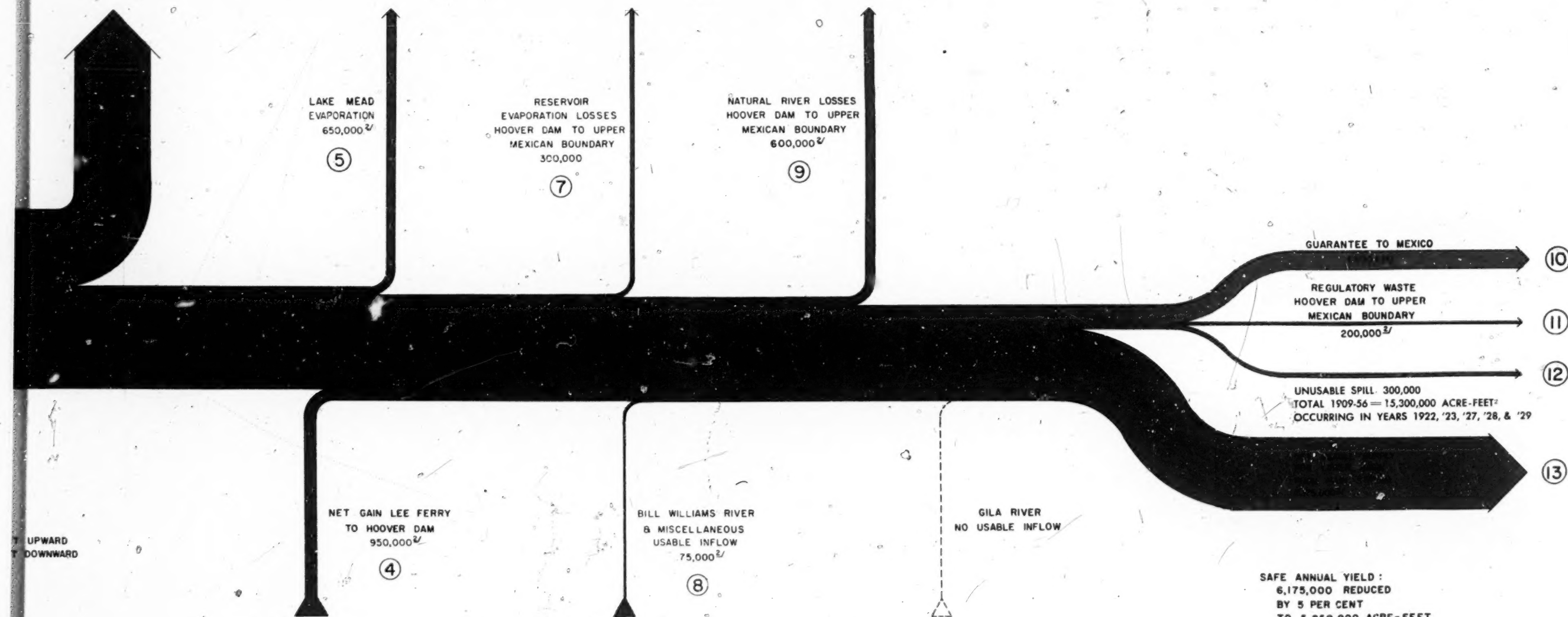
⁴Ariz. Ex. 366 (Tr. 18,097).

SCHEMATIC DIAGRAM SHOWING WATER SUPPLY AVAILABLE ON LONG TERM BASIS FROM MAIN STREAM OF COLORADO RIVER IN LOWER BASIN PERIOD OF STUDY 1909-1956

(AMOUNTS SHOWN ARE AVERAGES PER YEAR IN ACRE-FEET)

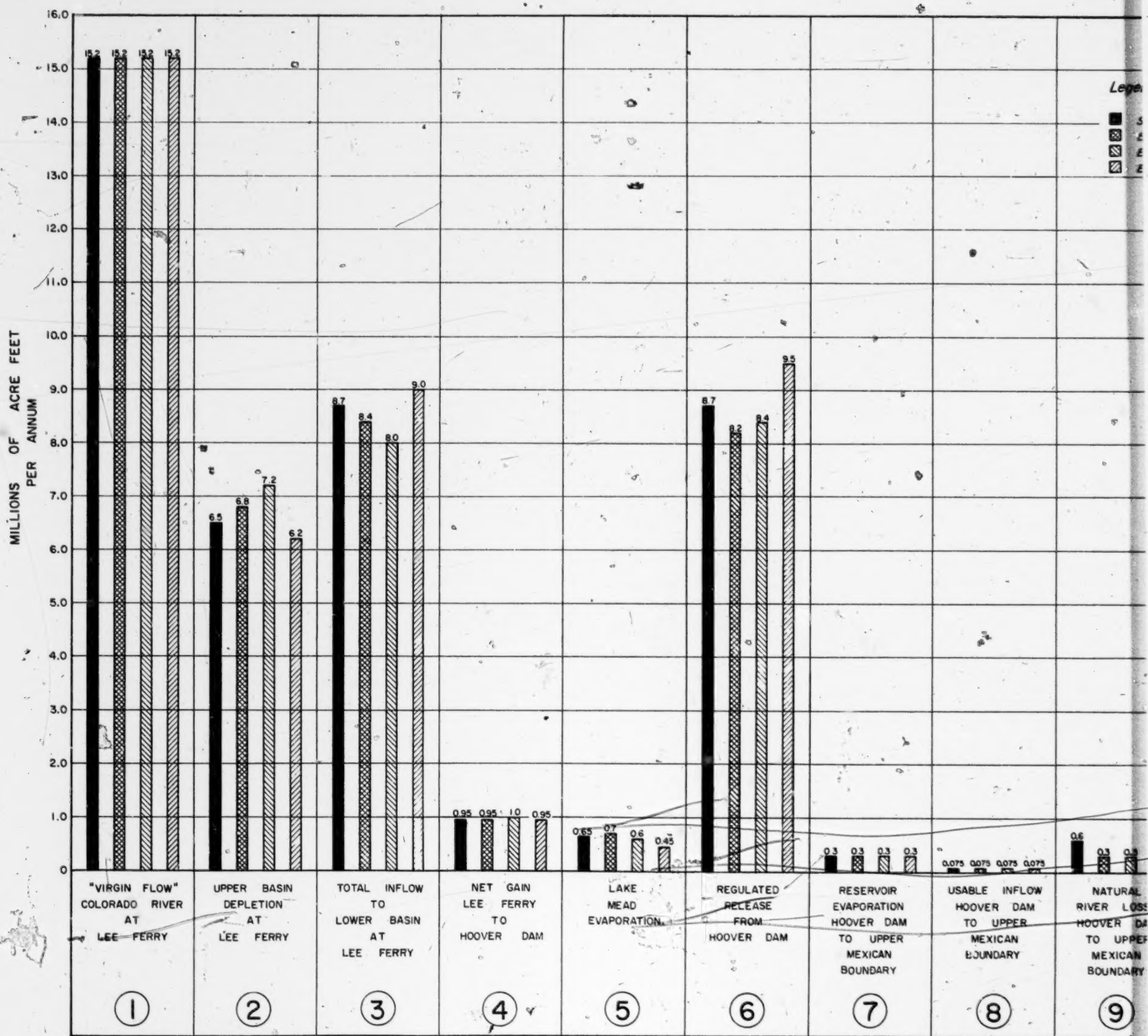


SCHEMATIC DIAGRAM SHOWING WATER SUPPLY AVAILABLE ON LONG TERM BASIS FROM MAIN STREAM OF COLORADO RIVER IN LOWER BASIN PERIOD OF STUDY 1909-1956 (AMOUNTS SHOWN ARE AVERAGES PER YEAR IN ACRE-FEET)

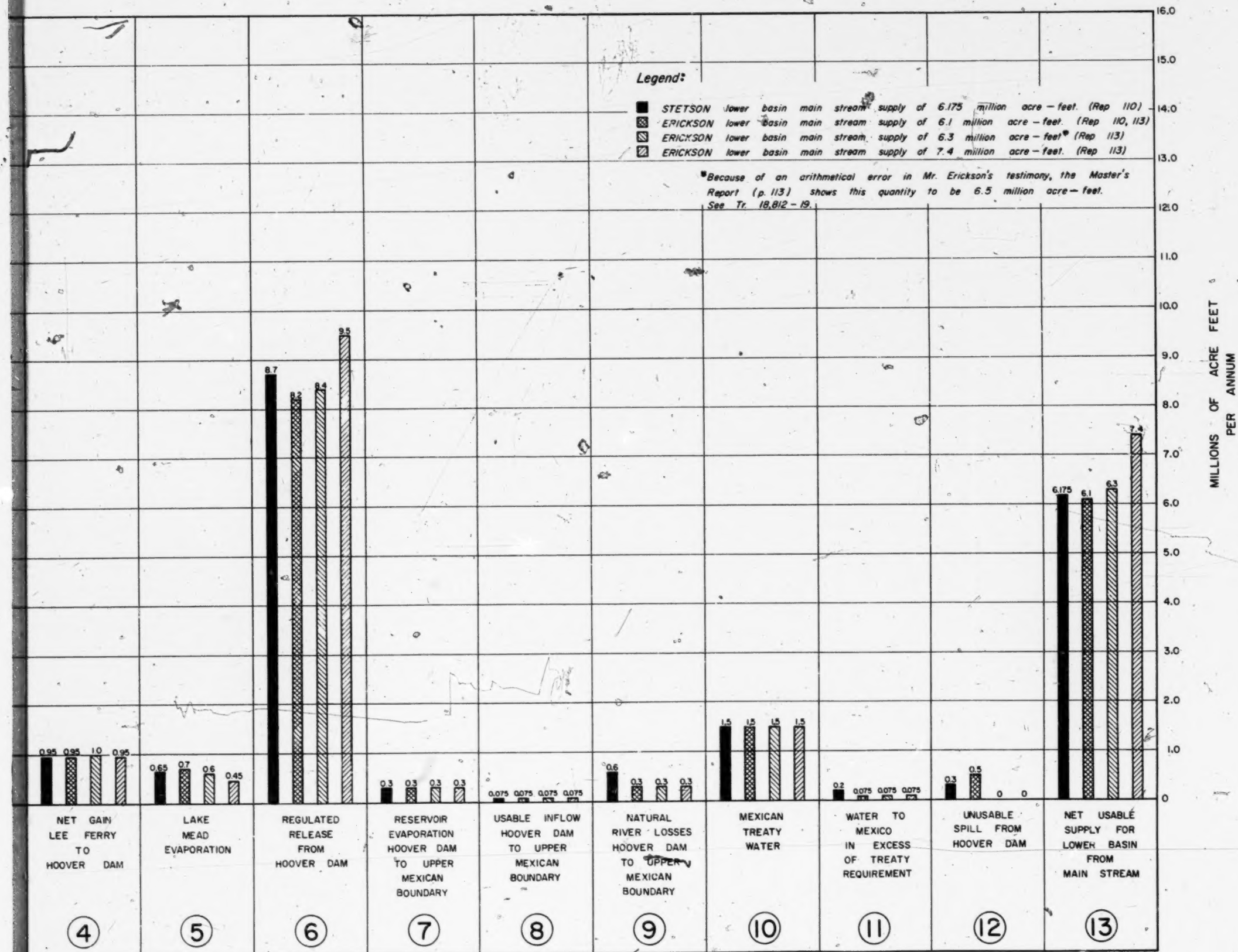


(For explanation of plate 8, see computation of dependable
supply preceding plate 7.)

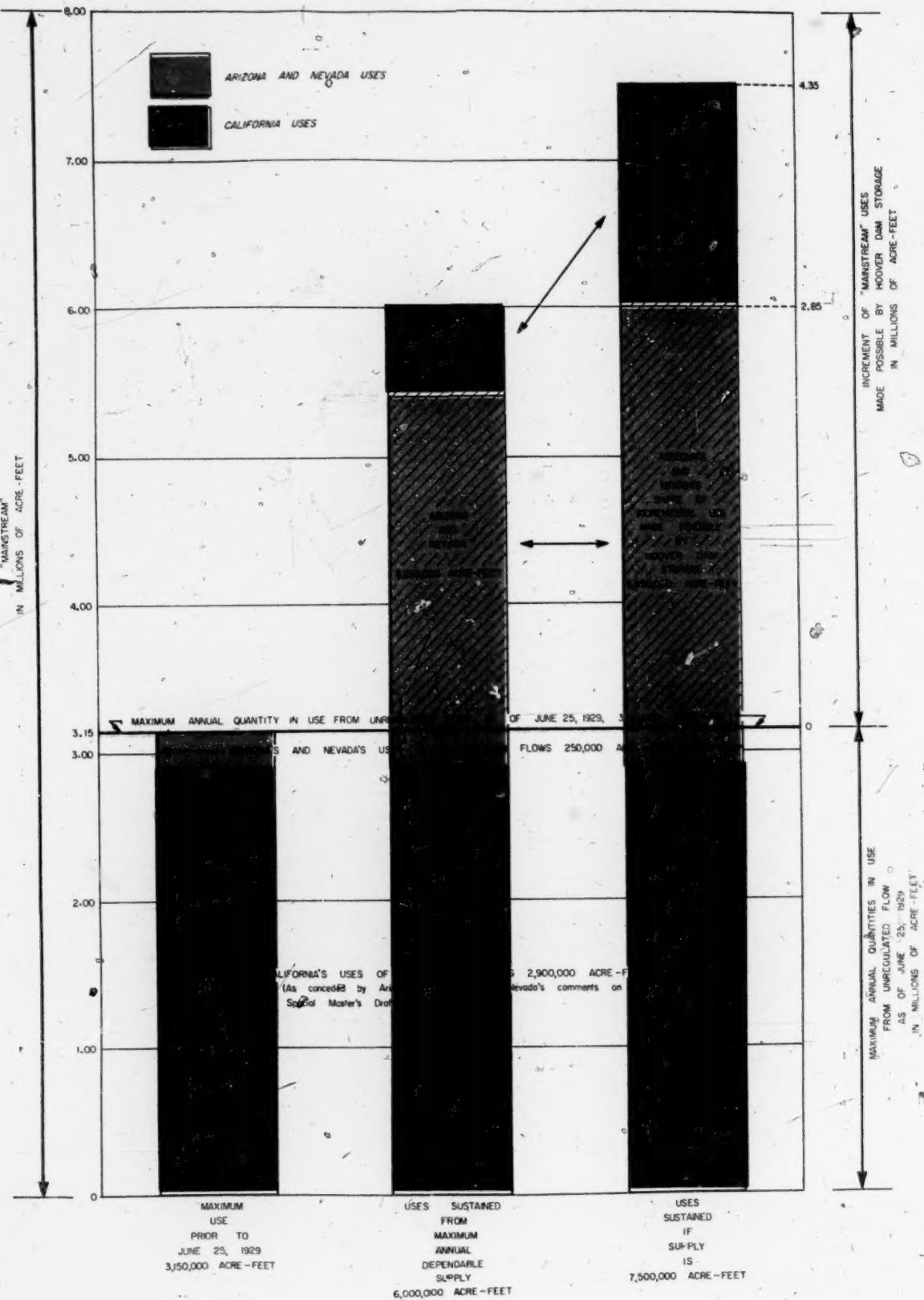
COMPARISON OF LONG TERM MAIN STREAM WATER



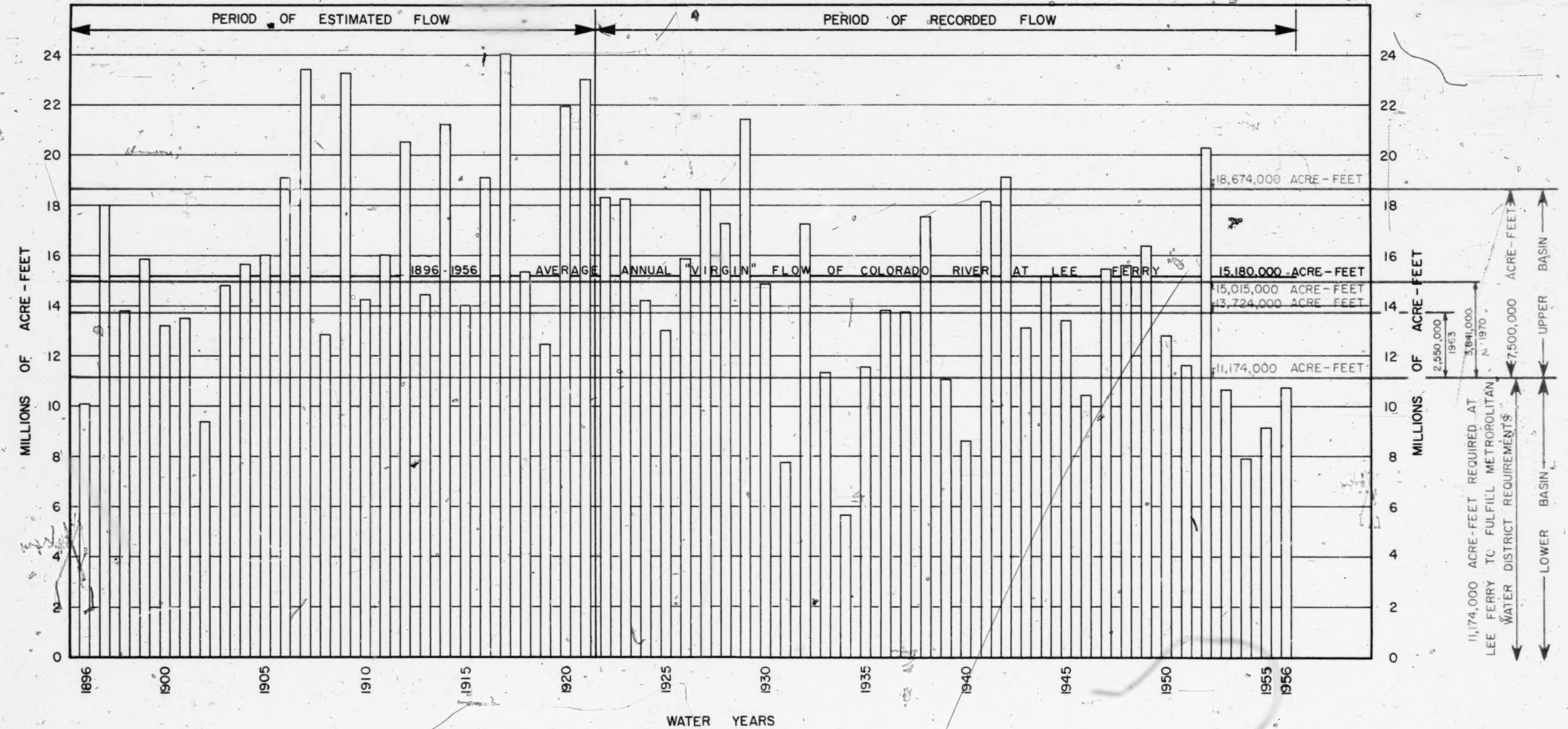
ON OF LONG TERM MAIN STREAM WATER SUPPLY STUDIES



ALLOCATION UNDER SPECIAL MASTER'S DECREE OF INCREMENTAL USES MADE POSSIBLE BY HOOVER DAM STORAGE



ANNUAL "VIRGIN" FLOW OF COLORADO RIVER AT LEE FERRY AND REQUIREMENTS DEPENDENT THEREON



LOCATION MAP

